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PART I.
ORIGINAL COMMUNICATIONS.

ART. X.—*Contributions to Operative Surgery.* By GEORGE H. PORTER, M.B., T.C.D.; F.R.C.S.I.; Surgeon to the Meath Hospital and County of Dublin Infirmary; Examiner in Surgery Royal College of Surgeons Ireland; Consulting Surgeon to the Coombe Lying-in Hospital; Member of Council of the Surgical Society of Ireland; Member of the Pathological Society of Dublin; Lecturer on Clinical Surgery.

1. THE KNEE-JOINT LAID OPEN FOR EXCISION; EXTENSIVE DISEASE DISCOVERED; RESECTION ABANDONED; AMPUTATION OF THE THIGH BY "TEALE'S" RECTANGULAR FLAPS.
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I HOPE that the following cases in operative surgery may prove interesting to the practical surgeon, as they are not unfrequently to be met with in ordinary practice, and as possessing, respectively, very marked characteristics.

I.—*The Knee-joint Laid Open for Excision; Extensive Disease Discovered; Resection Abandoned; Amputation of the Thigh by "Teale's" Rectangular Flaps.*

It is often a matter of extreme difficulty, in disease of a joint, to ascertain, accurately, the full extent to which the bones entering into its formation are damaged. When sinuous openings have formed about the part it is comparatively easy to discover the amount of injury by means of a probe passed through those apertures; but when such do not exist the uncertainty is much augmented. Formerly, I believe, very many limbs were amputated in consequence of the difficulty just mentioned, which would now be saved by resection. Fortunately the success of cutting out the diseased portion causes us no longer to look upon the loss of the limb as requisite; and, on the other hand, the free opening of an articulation to examine its condition in no way interferes with subsequent amputation if too extensive destruction be found within. The case I am about to mention is one which very strikingly manifests the great necessity of ascertaining, beforehand, the state of the ends of the bones, proving that a large amount of disease may be present, when, to all appearances, it was of a limited degree; and that laying the joint open for inspection does not, in any way, prevent further operation, but, on the contrary, would rather suggest exploration, in all doubtful cases, prior to the removal of the limb.

M. S., aged nineteen years, was admitted into the Meath Hospital February 11th, 1863. She gave the following history of her case:—When thirteen years of age, whilst running on an errand, she fell to the pavement on her left knee, and a fortnight afterwards the joint began to swell and become painful. She then gained admission into one of the hospitals of this city, but remained only a few days under treatment. At this period she was lame from stiffness and pain in the knee; but was able to walk about until May, 1862, when, becoming much worse, she sought admission into the Meath Hospital, where she remained nearly five months, undergoing treatment calculated to bring about an ankylosed condition of the articulation. All this time her general health did not suffer to any marked extent. On the contrary, she looked well and fat; and, feeling relieved, left the institution for the country, a strong leather case or mould having been previously placed round the joint. In this state she moved about on crutches, and occasionally visited

the hospital, as an extern patient, up to a week before her last admission, when she was attacked with swelling, excruciating pain in the knee, and frequent startings. On examination I found the joint slightly flexed, but much enlarged, measuring two and a half inches in circumference more than the sound one; it had a globular shape; the sulci on each side of the patella were obliterated, and exquisite tenderness was evinced when it was touched, particularly at the inferior and inner side of the articulation. The lower end of the femur did not appear enlarged; nor did the upper extremity of the tibia seem altered, but it was slightly displaced backwards, and could be moved a little in every direction, on the end of the thigh bone, showing that the ligaments no longer retained their healthy firmness and strength. This motion gave great suffering. The thigh and leg were placed in a well-fitting case which kept the joint in a state of perfect repose, but allowed the front of its surface to be exposed. Leeches were, from time to time, applied, followed by soothing applications; but she began to lose her rest, and suffered great torture. The startings became very distressing at night; and yet, strange to say, her health was not visibly impaired; her appetite continued good, and all her functions seemed to be performed normally. Towards the end of June, however, matters began to assume a graver aspect; she suffered from profuse nocturnal sweats; the pain became so intolerable that sleep was impossible; her appetite, for the first time, failed, and henceforth she daily entreated that the limb should be removed.

Such a state of things could not be permitted to continue; and, in consultation with my colleagues, on the 6th July, it was agreed to excise the joint; her age, state of health, and the *apparently* small amount of disease in the ends of the bones leading to the conclusion that it was a most favourable case for operation. Accordingly, on the 15th July, having had her put completely under the influence of chloroform, I proceeded in the following manner:—She was placed on the operating table, in the recumbent position, the limb having been steadied in the most extended position practicable. With a stout scalpel I made a deep incision along the inside of the articulation, four and a half inches in length, commencing about two inches below the head of the tibia, and extending up two and a half above its articulating surface; keeping here in front of the saphena vein. An incision, similar in length, and on the same level, was made on the outside; and in both of these the knife was carried down to the bone. The joint was then fairly opened by a third

incision across, about one inch above the insertion of the ligamentum patellæ. At this moment some pus flowed from its cavity. I then dissected the lower flap downwards, and also freed the upper, with the patella lying in it. The lateral ligaments were then quickly divided; the anterior crucial was gone. I now carefully, but rapidly, detached the soft parts from the posterior surface of the femur, when the ends of the bones, on being completely exposed, were found to be almost entirely stripped of cartilage. Having applied a narrow-bladed saw behind, just above the condyles of the femur, I quickly sawed them off. The section of bone appeared of a dark red colour, very soft to the touch; it broke down easily under pressure, and was infiltrated with purulent matter. The upper extremity of the tibia was found to contain an abscess, which passed downwards to the extent of an inch or more. With this amount of destruction to bone to attempt to save the limb was out of the question, and amputation was imperative.

It struck me that this was a very suitable case in which to adopt Mr. Teale's mode of amputating; and, accordingly, I prolonged the lateral incisions upwards, about five inches, with an amputating knife; and, having cleared the anterior flap from the surface of the femur, I quickly drew the knife across, beneath the thigh, cutting the posterior flap, as nearly as I could guess, one fourth the length of the anterior. Separating the soft parts from the bone, close to the periosteum, a little way upwards, I sawed it through, and, finding the cut surface at this height healthy in aspect, I proceeded to secure the vessels. My next step was to remove the patella from the anterior flap, which was done with facility. I now folded the long flap over the end of the bone, and attached its free angles to those of the shorter one behind by means of two silver wire sutures, the insertion of six more stitches, two in each lateral and two in the transverse line, bringing the parts into good apposition. When the flaps were brought together the anterior seemed too long, so much so that I was almost tempted to shorten it a little, but desisted from remembering Mr. Teale's statement, that "it often appears superabundant, but in result it is not found to be so, chiefly in consequence of the great retraction of the short flap." The patient having been removed to bed, the stump was laid on a pillow covered with waterproof sheeting, and a large piece of wet lint placed over it. With the exception of changing the lint every morning, no other dressing was had recourse to for six or seven days, and any discharge was with ease cleansed by a sponge from

the sheeting beneath. The wound healed most kindly, and the ligatures came away at the usual period in amputations of the thigh. It would be uninteresting to describe the progress of this case from day to day; but it will suffice it to add, that the stump turned out in every respect such as was desired. A thick soft mass, devoid of large nerves, covered the end of the bone, was movable on it, and formed a good cushion to bear future pressure. The lithograph, by Forster & Co., from a drawing by Mr. Tomsohn (Plate I.), gives a very accurate representation of the stump when healed.

The chief features of interest in this case, I conceive, are:—The extensive disease in the joint, unaccompanied with proportionate constitutional disturbance until a very late period—the absence of sinuous openings about the joint—the great difficulty of forming an opinion as to the extent of damage to the bones—and the facility with which one operation was converted into another. As far as I am aware, it was the first recorded occasion on which this mode of amputating was performed in Dublin; and also, if I am not mistaken, the first case of its adoption where resection was found not to be practicable, and the immediate loss of the limb required. Since this operation, my colleague, Mr. Collis, performed amputation in the same manner in two other cases. They turned out most successfully, and seemed in every way stumps likely to possess all the advantages said to belong to rectangular flap amputations by the distinguished surgeon who first recommended them.

II.—*Syme's Operation for the Radical Cure of Reducible Hernia.*

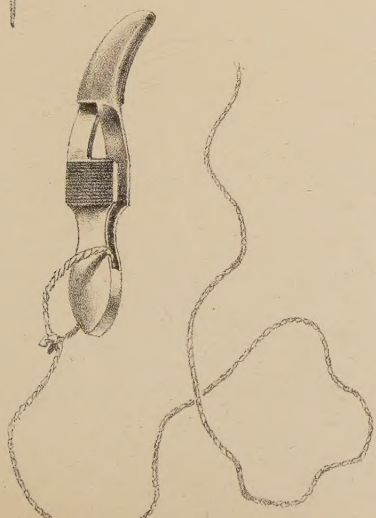
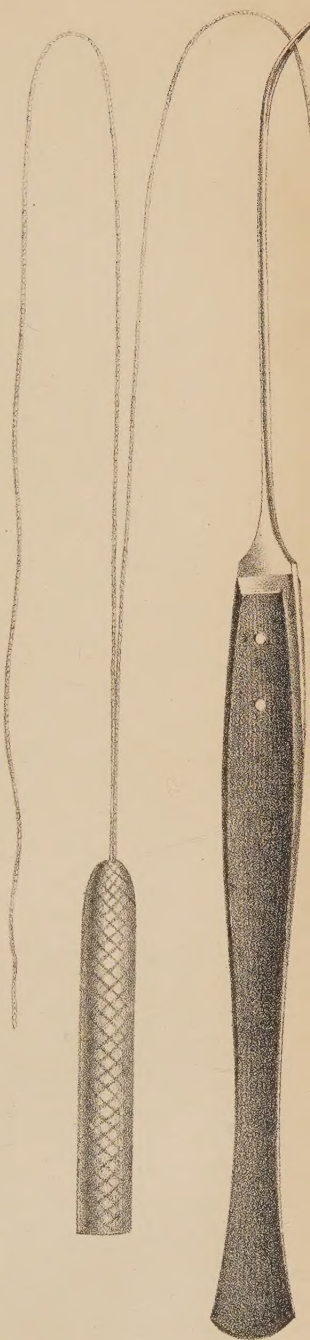
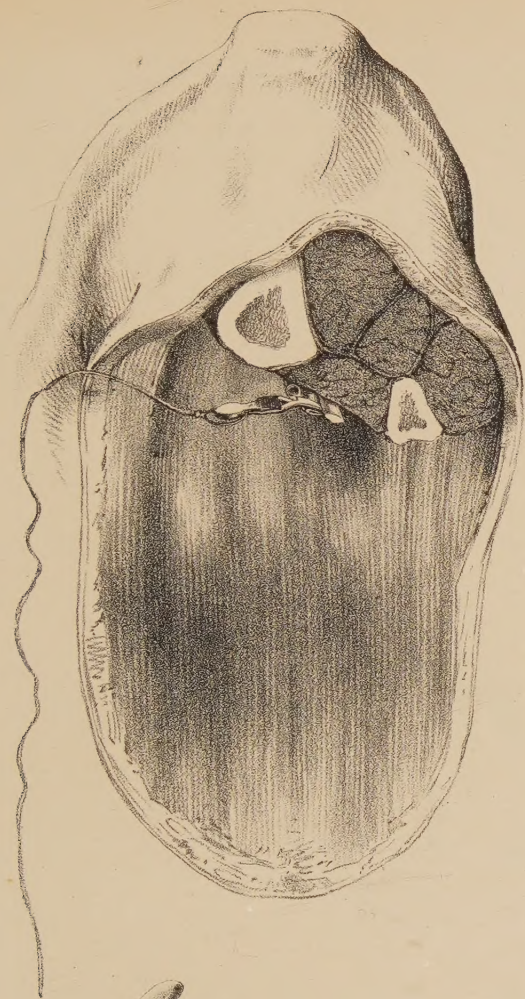
When Professor Wutzer, of Bonn, suggested his operation for the radical cure of hernia it promised fairly to fulfil all requirements. Surgeons hailed it as one of the great *desiderata* in their art, and hoped that a remedy had at last been found to enable them to dispense with the galling truss. Now, we must remember that in any operative measure for the permanent cure of a rupture, the obliteration of the sac should be effected, as well as the contraction of the hernial aperture. Wutzer's apparatus certainly accomplishes much towards the desired end, by inserting a plug of skin and other textures to fill the deficiency in the abdominal walls, and thus prevent the escape of intestine. The operation is not painful, and is comparatively without danger to the patients; but, although one of the best plans, it may be objected to on some grounds. In recent ruptures, for example, when the opening is not large, the insertion of the wooden cylinder is calculated to widen the ring, and

thus, by tearing asunder the parts, to produce the very result which is intended to be obviated. I am not now, however, about to discuss the merits of operations performed for this purpose, some of them proposed and executed by surgeons of the highest ability; but I merely wish to give my own experience of one which was simple in its performance and most happy in its consequences. I allude to that recommended by Mr. Syme in his *Observations in Clinical Surgery*.

On the 21st May, 1863, a man, aged thirty-five years, a carpenter by trade, was admitted under my care into the Meath Hospital, with a reducible oblique inguinal hernia on the right side, of which he had become the subject, three months previously, whilst lifting a weighty piece of timber. The tumour was not large, nor had it passed beyond the external ring. He suffered pain in coughing, sneezing, or when he made any unusual exertion at his trade. He was at first quite ignorant of the nature of his malady; but, when informed that it was a rupture, he begged that anything might be done which would secure him from the annoyance of wearing a truss, of the discomfort of which he had often heard people speak. Considering his age, good state of health, the small size of the tumour, and the length of time he was suffering from the disease, I regarded it as a favourable case, of which a radical cure might be attempted. Before describing the operation, I cannot do better, perhaps, than quote from Mr. Syme's work respecting the instruments and appliances required. He says:—"Instead of a complicated machine for distending the invaginated integument, I employed a piece of bougie, or gutta percha, to one end of which was attached a strong double thread. The plug, thus prepared and smeared with cantharides ointment, was drawn into its place by the threads, which, by means of a curved needle, guided on the fingers fairly within the ring, were passed, at the distance of rather more than an inch from each other, through all the textures to the surface, where they were tied firmly together on a piece of bougie, to prevent undue pressure on the skin." The lithograph (Plate II., Fig. 1,) correctly shows the portions of bougie arranged for use. The one with the cord attached, I may remark, is easily prepared by drilling a small hole in its top, and drawing the double thread through, when it can be made fast, without fear of giving way, by tying to it a little piece of paper or linen, which is drawn with the knot tightly into the hollow bougie. The strings should be made of stout hemp or silk, and about twelve inches in length. I used, on

Fig 2

Fig 1





the occasion, a long needle, with a flat sharp point, slightly curved, like those employed in making *post mortem* examinations; though I recommend "Liston's needle," fixed in a handle, as much more manageable.

Operation.—May 27th.—The patient, having had his bowels well freed by castor oil, taken the night previously, and his bladder emptied a few minutes before, was placed in the recumbent position on a table, with his legs hanging over, his feet supported, his shoulders slightly raised, and the right thigh flexed a little. Standing between his legs, I pushed up, with the fore-finger of my left hand, a large plug of scrotal integument into the external abdominal ring; and, feeling fairly within its sides, I took the needle with one of the threads attached, and, guiding it along the finger so placed, I transfixed the external pillar and abdominal parietes. Then, taking the thread from the needle, an assistant threaded it with the second cord, when I passed it through the internal pillar, and made its point appear about an inch and one eighth internal to the first aperture. Having then withdrawn the finger, I pulled the portion of bougie, well smeared with cantharides ointment, by means of the two strings, into the situation previously occupied by my finger, invaginating the structures as it assumed its place; and, lastly, I tied tightly the two threads across the second piece of bougie, to prevent any injury to the skin by pressure. The patient suffered scarcely any pain, wincing merely a little at each puncture of the needle. He was placed in bed after the operation, with the right thigh elevated slightly on a pillow, a small pledget of wet lint laid over the site of the ring, and a full opiate administered.

May 28th.—Had slept well; in no pain; a faint redness visible about the needle-punctures.

May 29th.—Rested easily; free from pain; and no tenderness whatever on pressure in the abdomen. He says that when he coughs he feels, to use his own phrase, "quite tight below." It would be tedious to give the details of this case from day to day. It will suffice to say that he went on as favourably as I could wish in every respect, and never had a bad symptom. I removed the bougie on the 7th June, and found that the punctures were slightly ulcerated near the threads, with a blush of redness about them. The site of the external abdominal ring presented a round swelling, the size of a large nut, and was very hard to the touch. This

appeared to be formed by the invaginated structures and lymph, thrown out around the parts. The man coughed forcibly without in the least displacing the plug of skin, which was now firmly lodged in its new position—while there was some discharge from the excoriated surface inside the inverted integument. I then laid a compress of lint over the part, and applied a spica bandage. He was thus kept confined to bed until the 20th June, when I allowed him to walk about the ward with the bandage on. June 22nd I tested the result of the operation by making him cough violently and jump from a chair to the ground several times; but notwithstanding this exertion not the least protrusion occurred, and the ring appeared permanently sealed up. I put a truss on him with a very light spring, and permitted him to leave the hospital on the 25th June—desiring him to wear it during the day, to avoid any great straining or exertion as much as possible, and to let me see him occasionally. I saw him very recently; and the disease is, to all appearance, cured. He is able to follow his trade with comfort, and feels the part as strong and unresisting as any other portion of the walls of the abdomen.

I have performed Wutzer's operation for the cure of hernia three times, and have seen Wood's procedure done twice, and, as far as my opinion goes, must give the preference to this of Mr. Syme. I cannot conclude better than by repeating the three advantages it possesses, as stated by that able surgeon:—"1st. That it may be executed by means which are in the possession of every surgeon, instead of the complicated, expensive, and not easily manageable apparatus, hitherto deemed indispensable. 2nd. That it may be accomplished with much more certainty through the secure guidance of a finger, than by trusting to a piece of wood, for gaining admission within the tendinous ring. 3rd. That the two threads, co-operating in their effect, render the chance of adhesion between the textures much greater than when it is attempted by the mere puncture of a needle."

III.—*A new Mode of arresting Venous Hemorrhage after Amputation.*

In amputations, when the circulation has been controlled by pressure with the finger of an assistant, or by some of the more modern tourniquets, such as Signoroni's, Skey's, or that of Salt, which compress chiefly the main vessels, it is not by any means uncommon for the operator to be annoyed by venous hemorrhage. This can be explained by the fact that, the smaller arterial branches

arising above the site of pressure, carry a considerable quantity of blood to the limb below the point compressed; and the blood is prone to pass from the veins accompanying those arteries into the lower part of the larger ones, and flow from their divided mouths. Generally speaking this subsides on placing the stump in an elevated position, or by pouring a stream of cold water over it; but, on the other hand, I have frequently seen a surgeon, after all the arteries had been carefully deligated, obliged to keep the cut surface exposed to the air for a long time, with the point of his finger fixed on a vein, before the flow of blood could be checked. Again, I have witnessed such bleeding arrested only by placing a pledget of lint with a string attached, for its removal, on the vessel's mouth. This, independently of retarding, to some extent, the healing process, caused a large amount of suffering on its withdrawal some hours subsequent to the operation; and may also be objected to on the ground that it keeps a supply of pus, putrid blood, or serosity, in constant contact with the orifice, for absorption. Surgeons in this country are not favourable to the practice of ligaturing a vein, although having the sanction of such authorities as Hey, Desault, and Hennen. The dangerous, and sometimes fatal, phlebitis following such procedure, has given us a wholesome dread of tying, or, in any way inflicting injury on these vessels. Again, I should much fear that placing a ligature round both vein and artery—as, for example, the femoral vein and artery—(Desault) would prevent the cord having the desired effect on the latter, as the vein must hinder it from dividing the internal and middle coats of part of the tube, and thus render the possibility of secondary hemorrhage to be apprehended. It occurred to me that the trouble might be got rid of by the simple contrivance of temporarily grasping the mouth of the vein within the jaws of a very small Dieffenbach's artery forceps, having connected with it a string to take it away when all bleeding had ceased. Its pressure effectually controls the flow of blood; its bulk forms no obstacle to bringing the parts into close approximation; and it can be removed with the greatest ease, almost, indeed, with the same facility that we draw away a ligature. At my request, my colleague, Mr. Collis, lately tested the plan with the most marked advantages, in a case of amputation of the thigh, in which bleeding from the femoral vein proved troublesome. My most sanguine expectations were realized by its action, as it instantly sealed the vessel, and so guarded against further hemorrhage and purulent absorption. It inflicted no injury; and,

in the case above-mentioned, it was pulled away in forty-eight hours without causing any pain to the patient. I have added a lithograph (Plate II., Fig. 2) from the hands of Mr. Forster, which faithfully represents the instrument; and also its mode of application.

IV.—*Extraction of a Hair-pin from the Urinary Bladder.*

Many interesting cases of removal of hair-pins from the bladder of females, have been from time to time recorded, accompanied with practical hints for the mode of relieving the sufferers from those foreign bodies. Among the most remarkable may be mentioned those which occurred in the practice of Mr. Syme, Mr. Hilton, and Dr. Tabuteau. The following remarks will, I trust, be read with interest, as pointing out an easy and efficient method, and as illustrating a fact already known, viz., that, the urethra of the female is capable of being dilated to a very great extent, without subsequent injury to the canal.

J. N., aged 20, unmarried, admitted into the Meath Hospital, March 24th, 1861, stated that she had, five days previously, pushed the rounded extremity of a hair-pin up the urethra, and, as it slipped from her fingers, she was unable to withdraw it again. She did not suffer much prior to her admission, merely feeling a slight smarting after passing water. On the following morning I introduced a silver female catheter into the bladder, and drew off about two and a-half ounces of turbid urine. Previous to, and after emptying the viscus, I could distinctly feel the instrument strike against a hard body. I immediately withdrew the catheter and having had her placed under the full influence of chloroform, and put in the position for lithotomy, passed in a slightly curved narrow-bladed forceps, but without effect. I then used a long probe hooked at one end, and sought to entangle it in the bent part of the pin, but in this also I was disappointed. The pin could be felt lying across the neck of the bladder, the points being directed to the right side, but I was unable by any manœuvre to dislodge it. I then decided upon dilating the canal, and on the 26th March, placed a tent of prepared sponge, about two inches in length, in the urethra, and desired the resident pupil to allow it to remain there until the first demand to pass water, and to replace it with another fresh one during the day, after each act of micturition. This plan was steadily persevered in for two days; but on the morning of the 29th March, she refused to permit the introduction of another sponge,

as she was suffering great pain in the region of the bladder, had frequent desire to empty it, and tenesmus. The urine was opaque, and tinged with blood, and I ordered a warm bath, an opiate enema, and the following mixture:—Carbonate of potash, one drachm; tincture of hyoscyamus, two drachms; syrup of poppies, three drachms; and camphor mixture to eight ounces. Two table-spoonfuls to be taken every second hour.

I directed that the tent should not be re-introduced until evening, and, not even then, unless the pain had been relieved. The patient felt so comfortable towards night that the sponge was again applied, and remained five hours in its position.

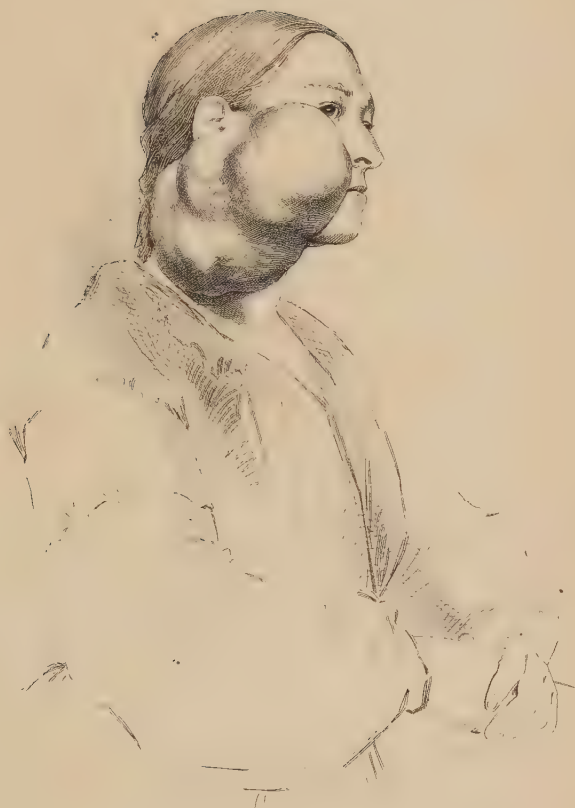
30th March, I found, on examination, that I could without much difficulty gradually introduce the index finger of my left hand fairly into the bladder. By this means I was enabled to touch the hair-pin very palpably; and, having done so, tried to disengage it. In this I was successful, and brought it on so as to feel one of the points. I now guided a narrow-bladed forceps along my fingers into the bladder, and, after the lapse of a few moments, seized it. The second point was easily found; and fixing it firmly against the top of my finger in the viscus, I withdrew the hair-pin thus grasped. It was considerably coated with phosphatic deposit, although it was such a short time in the bladder, showing how very quickly any foreign substance affords a nucleus for the formation of a calculus. The girl was now placed in bed, and ordered an opiate draught, resulting in a tranquil day, when she had perfect control over the act of micturition. She left the hospital five days afterwards quite well, maintaining complete command over the action of the bladder.

Numerous excellent methods have been used for removing hair-pins from the situation indicated, and ingenious instruments have been invented for the purpose; but I consider they are not requisite, as after a gradual but free dilatation, in the manner described, sufficient access is found for the finger (by which you can easily feel what you are doing) and a pair of forceps is the only instrument, in my opinion, necessary. In Mr. Hilton's case, reported in the *Lancet* of February 28th, 1863, he dilated the urethra by passing in his little finger, and subsequently the fore finger, and withdrew the pin by means of a blunt hook. He also speaks of an "eyed instrument" to slip over one of the points, if it presents itself, and thus glide to the curved part. I cannot, however, conceive this manœuvre easier than seizing the prong with a forceps, hitching the second extremity on the top of the finger in the bladder, and

withdrawing all together. I am of opinion that such rapid distension of the passage is not prudent, and I consider it likely to be followed by want of control over the organ for a longer or shorter period. Mr. Syme speaks highly of a combination of dilatation and cutting for obtaining access to the bladder; and in his case produced the former effect by bougies, and the latter by a very slight incision of its neck, by means of a narrow straight bistoury. He then removed the foreign body with a hook. He acknowledges that dilatation "if carried beyond a certain degree, is apt to produce that suppurative inflammation, which in this situation so surely proves fatal." I agree entirely with this statement, and hold that the hasty enlargement (by which I understand the canal being dilated *immediately* before the extraction of any foreign substance) is far more likely to be followed by a want of power at the neck of the viscus, or by the dangerous inflammation alluded to. The late Sir B. Brodie was also in favour of *gradual* dilatation, when it is required to enlarge the female urethra; and, with respect to the mode of doing so with the sponge tent, recommends that it should be "made by compressing a piece of wet sponge between two pieces of board, in a vice, or under a very heavy weight, and not that prepared by wax." Those I used were prepared in the latter manner, and I cannot imagine why he objected to it, as they were most efficient in every respect.

ART. XI.—*Case of Enormous Deep-seated Tumour of the Face and Neck, Successfully Removed by Operation.* By JAMES SPENCE, F.R.C.S.; President Medico-Chirurgical Society, Edinburgh; Senior Surgeon and Lecturer on Clinical Surgery, Royal Infirmary; and Lecturer on Surgery, at Surgeons' Hall, Edinburgh.

IN the beginning of October, 1862, I received a letter from Dr. Phipps, of Manchester, in reference to the patient whose case I am about to narrate. He gave me the general history of her case; and enclosed three photographic portraits, exhibiting a tumour from different points of view; and requested me to say whether I thought there was any possibility of removing it, as she was willing to run any risk to have it removed. The history of her case was as follows:—



MR SPENCE'S CASE OF TUMOUR.

Eng'd by Banks & Co. Edin' from Photographs by
Silas Eastham Manchester



"Mrs. Jepson, aged thirty-four, of a healthy appearance, states that, when eighteen years old she noticed what she calls a 'waxen kernel,' growing under the skin over the mastoid process of the right side, and immediately under the lobule of the ear. For two years it showed no tendency to grow larger; but afterwards it increased slowly; and she applied for relief to several medical men. In spite of the use of iodine, externally and internally, it continued to grow. She was married when she was twenty-one years of age; and states that during her pregnancies the tumour appeared to increase more rapidly than at other times. Four years after her marriage the growth had reached the size of a large hen's egg; and she was taken by her medical attendant to the Manchester Infirmary, to obtain the advice of the surgeons of that institution. They told her that the tumour might be removed; but that she must take the whole risk of the operation on herself. Her own medical attendant seems to have dissuaded her from having anything done. Since then the tumour has continued gradually enlarging; but of late years has shown a marked tendency to more rapid increase."

I was informed that the patient, harassed by the weight and deformity of the tumour, had recently applied to a surgeon at Manchester to have it removed; but he declined interfering; and dissuaded her from submitting to any operation. I wrote, in reply to Dr. Phipps, that though I could not decide without personally examining the patient, I was inclined, from the history he gave of the growth, and his account of its general relations, to think it might be removed; and that I would arrange for her reception under my care if she came to Edinburgh, as contemplated. She was admitted into my wards in the Royal Infirmary, on the 11th November, 1862.

Appearances on Admission.—The patient is a somewhat pale, but not cachectic, looking woman. There is an enormous tumour, as large as her head, projecting from the right side of her neck. Its boundaries are the following:—Beginning about one inch from the second cervical vertebra, it passes downwards to within an inch and a-half of the clavicle; then sweeps obliquely to the middle line of the neck, which it reaches near the cricoid cartilage. It then passes upwards by the side of the chin, close by the angle of the mouth—which is not distorted; and round by the outer angle of the orbit, and through the lower part of the temporal region, and

thence to the spinal column, on a level with the meatus auditorius externus and apex of the mastoid process. The lobule of the ear is very considerably stretched. The surface of the tumour is irregular, presenting a lobulated appearance; the most prominent part is that which projects forwards from the face, and where there is a feeling of fluctuation; the rest of it is solid. The veins over the surface are not markedly distended. The anterior portion of the tumour is more movable than the posterior. There is no glandular enlargement, either in the subclavian space or on the left side of the neck. Respiration and deglutition are not in the least interfered with.

November 18th.—Since the 16th instant she has been very sick, with occasional vomiting; but to-day she feels much better. The sickness is almost entirely gone; but the fauces are inflamed. Pulse 92.

November 21st.—The throat is still inflamed; otherwise she feels better.

Operation.—On the 5th of December, Mrs. Jepson having quite recovered from the feverish attack from which she suffered after her admission into the hospital, I proceeded to remove the tumour. The patient having been placed recumbent, and brought under the influence of chloroform—her head and shoulders supported with pillows, and her face turned towards the left side, I commenced the operation by making two slightly curved incisions, extending from the lobe of the ear to the sternal attachment of the sternomastoid muscle, so as to mark out an elliptical portion of skin, about three and a-half inches broad at its widest part, over the middle and prominent part of the tumour—the anterior incision corresponding nearly to the internal edge of the mastoid muscle. I next made an incision backwards and slightly downwards from the middle of the posterior longitudinal incision, so as to extend beyond the posterior limit of the tumour; and lastly, an incision from a point external to the angle of the mouth, was carried obliquely downwards and outwards, so as to fall upon the centre of the anterior longitudinal incision. The four large flaps of skin and platysma myoides thus marked out were then dissected and reflected off the tumour, commencing with the posterior—the external jugular vein being tied with two ligatures, and divided between them. When the whole surface of the enormous growth was thus exposed—except where the elliptical portion of skin remained—the





M^{rs} SPENCE'S CASE OF TUMOUR.

Fig 3



MR SPENCE'S CASE OF TUMOUR.

Eng'd by Banks & Co. Print'd from Photographs by
Silas Eastham. Manchester.



sterno-mastoid was seen to be so attached to the tumour about its middle, that I divided it above and below that part. I then relieved the anterior margins of the cervical portion by a careful dissection, keeping the edge of the knife towards the tumour until I was fairly beyond the line of the great vessels. My dissection was continued from the lower and posterior part till the phrenic nerve was seen clearly, and the upper and posterior portion, which had been previously so far relieved, was then rapidly detached from its deep connexions, and the whole of the cervical mass of the tumour was free. The detachment of the facial and parotid portion still remained to be accomplished; and this required great care, both because that part of the tumour seemed more cystic, and also because, as I expected, it was deeply connected behind the ramus of the jaw. On dissecting it from before, downwards and backwards, I found it attached to the fascial covering of the posterior belly of the digastric muscle, so that I had to dissect the muscular fibres. Above, it dipped deeply between the mastoid process and the jaw; but, partly with the finger, and careful dissection with the knife, it was detached pretty easily, till I arrived at the attachment under the ear over the mastoid process. Here it was firmly adherent; and the weight of the tumour caused a slight tear of its substance; but by having the tumour supported I dissected this attachment carefully, so as to remove the whole tumour entire. A large vessel entered it at this point, which was readily secured. During the operation some arteries which bled were tied as cut; and also some large veins, previous to their division. The chief bleeding during the operation was venous, from the divided veins passing from the tumour; but the whole amount of blood lost certainly did not amount to eight ounces. The wound resulting from this dissection, when the tumour was removed, extended from the zygoma to the clavicle and sterno-clavicular articulation. In the facial portion, the parotid gland seemed either atrophied or so displaced, that nothing was to be seen of it in the deep space between the jaw and the mastoid process. The portio-dura—the cervico-facial portion of which had been unavoidably cut—was seen crossing to the face; and the external carotid could be felt pulsating; and the digastric was seen dissected here. In the cervical portion of the wound, the great internal jugular, and its tributary veins, and the carotid artery, were exposed for nearly their whole length, and, posteriorly, the phrenic nerve was seen lying on the anterior scalenus. The flaps were brought together by a few points of

suture, and seemed to be rather redundant, notwithstanding the elliptical portion of skin removed. A flat fold of lint was placed lightly over the wound.

During the operation the chloroform caused vomiting. The patient was carried to bed; hot water bottles were applied to the feet, and a brandy enema given.

Dec. 4th.—Slept tolerably well during the night; sickness pretty severe; ordered brandy and ice; pulse 128.

Dec. 5th.—Pulse 130; slept pretty well; has taken a little food; the facial nerve seems slightly affected; she feels very little pain in the wound.

Dec. 6th.—Pulse 96; several stitches removed.

Dec. 8th.—Pulse 98; slept better than she has done since the operation; the lower angle of one of the flaps showing a tendency to inversion, a piece of lint was introduced below it, and the wound dressed with a solution of chloride of soda.

Dec. 9th.—Wound discharging freely; continue dressing; affection of the facial nerve not so marked; pulse 96.

Dec. 10th.—Still improving; had a very refreshing sleep last night; taking her food well; pulse 92.

Dec. 15th.—Wound looking well; dressed with a solution of chloride of soda; taking food well; sleeping well, and not complaining of pain; has been sitting up a little occasionally since last report; pulse 84.

Dec. 17th.—Still improving in every respect; pulse 84.

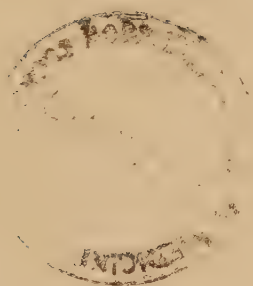
Dec. 20th.—Wound still discharging freely; appetite good; pulse normal; ligatures came away to-day at dressing.

Dec. 23rd.—Yesterday she became sick, and vomited several times after dinner; sickness continued occasionally during the night; this morning she is not nearly so sick as the day before; the wound presents the appearance of grey phagedæna, with erysipelatous blush on the skin; touched it lightly with nitric acid; tongue whitish; pulse 112.

Dec. 24th.—Sickness entirely gone; the wound rather dusky-looking; the surface touched slightly with nitric acid.

Dec. 25th.—The wound has much the same appearance as it had yesterday; continue treatment; pulse 96.

Jan. 6th.—Since last report she has been improving very satisfactorily; this morning she walked from Ward XX., where she has been lying temporarily, to her old quarters in the private ward; the wound is looking well, and the tongue clean; and the pulse is 88.





M^r SPENCE'S CASE OF TUMOUR.

Eng'd by S. S. & C. S. from Photograph by
John F. M. M. M.

Jan. 12th.—Is much improved; sat up for an hour yesterday; the wound is healing rapidly.

Feb. 3rd.—Since last report the patient has gone on improving daily; the wound is now almost entirely healed; and she left the hospital to-day for the Convalescent House.

After remaining for some weeks in the Convalescent House, till the cure was completed, Mrs. Jepson returned to her home at Over-Darwen, Lancashire; and since her return I have heard frequently, both from herself and also from Dr. Phipps, who states that her health is good and her appearance gradually improving; the marks of the cicatrix becoming less evident.

Examination of the tumour after its removal.—The growth was of a very irregular form, but may be described as an irregular ovoid mass, $9\frac{1}{2}$ inches in length, $8\frac{3}{4}$ inches at broadest part; its thickness or projection $7\frac{3}{4}$ inches, and weighing rather more than 7 pounds. It was nodulated on its surface, some of the larger projections looking like cysts, and feeling soft to the touch. The whole growth, however, was composed of solid matter, and presented, on section, the characters of the fibro-cartilaginous form of fibrous tumours. A careful examination of its structure was made by my friend Dr. Haldane, who has favoured me with the following description of it:—

“On section the mass was found to consist of two kinds of material; the most abundant, and that which formed the basis and the greater part of the tumour, was of a glistening appearance, a pale bluish-white colour, and was of firm almost cartilaginous consistence. Mixed with this, and occurring generally in bands, but sometimes in small patches, was a softer and more friable matter, of a pale opaque yellow colour. A few small masses of a glistening yellow appearance, evidently consisting of fat, were scattered through the mass.

“On microscopic examination the firm glistening portion of the tumour was found to consist of a finely fibrillated structure, in which were embedded oval, rounded, or elongated nucleated cells, having all the characters of cartilage cells; these varied in abundance in different parts, being, in some places, as numerous as the cells in true cartilage, in others but sparsely disseminated. The yellowish opaque matter consisted of granular material and small cells, apparently in process of disintegration; they resembled tubercle corpuscles or shrivelled pus cells, but were somewhat

larger; they contained no nucleus, but, in many, one or more granules were seen. The matter, which to the naked eye seemed fatty, was proved to be so on microscopic examination."

Remarks.—The case just detailed seemed to me worthy of notice on account of the great size of the tumour, its important anatomical relations, and the formidable character of the operation required for its removal; but especially as giving encouragement for surgical interference in similar cases of deep-seated cervical tumours, and as indicating certain principles, both in regard to the kind of growths suitable for operation, and the points to be attended to in effecting their removal.

Operations for the removal of large tumours from the neck are always attended with great danger from the proximity of the numerous important structures in that region, and the impossibility of thoroughly commanding the circulation through the great vessels during the operation. Large tumours, arising in the parotid and passing into the cervical region, have been frequently removed when placed superficially to the sterno-mastoid muscle. But some surgical authorities regard cases of tumours developed beneath that muscle as unsuitable for removal by operation; and, in point of fact, few if any cases of complete and successful removal of such tumours are recorded; at least, after some research, I can only find four cases mentioned:—One by Mr. John Bell, in his work on surgery, Vol. III.; two by Professor Warren, of Boston, in his work on tumours; and one incidentally mentioned by Mr. Liston in his *Practical Surgery*. Of the three first mentioned only are the details given, and in none of them was the whole tumour removed. Mr. Bell, who describes the operation in his usual graphic style, confesses that he left some small roots of the tumour attached to the transverse processes of the vertebræ for fear of injuring the phrenic nerve. The tumour rapidly recurred and destroyed the patient. In one of Mr. Warren's cases only portions of the growth could be removed, as it involved all the textures intimately; and, after ligature of both the carotid artery and internal jugular vein, a large mass was left, being connected with, and projecting into the pharynx. In his second case, Professor Warren, after clearing the surface of the tumour, rather than divide the sterno-mastoid for fear of injuring the spinal accessory, "the consequences of which last I was unacquainted with," adopted the alternative of cleaving the mass perpendicularly in its long axis, so as to remove the two

halves from under the muscle; and here, again, he tied and divided both the carotid and internal jugular; but some parts of the tumour in front of the vertebræ were left, the actual cautery being applied to them. The details of the case subsequent to the operation are meagre; very grave symptoms appear to have followed immediately, but the patient seems to have rallied; and, though we are led to infer that he did recover, nothing is said of the ultimate result, or whether the tumour was reproduced or not. The only notice of Mr. Liston's case I can find is contained in *Practical Surgery*, Chap. V., "On the Injuries and Diseases of Muscles and Tendons." He says:—"I had occasion to remove the sterno-mastoid muscle of one side, involved in a sarcomatous tumour from its origin to its insertion—a growth to which the most fastidious critic will not refuse the term sarcoma; though, in all probability, the muscular fibres may have been involved secondarily. The tumour was, so far, limited by a cellular sheath, yet the dissection was difficult and extensive. The patient made a good recovery, and no mal-position of the head followed."^a

So far as I could judge from this brief account of Mr. Liston's case, it seemed a growth developed in the substance of the mastoid, surrounded by the fascial sheath of the muscle; and, if so, differing very much from the enormous and irregular tumour I had to deal with. The cases recorded by Bell and Warren, though not successful in complete removal of the tumours, possessed this element of encouragement, that, whilst the failure depended on the character of the growth being unsuitable for any operation, they showed how much could be effected even under unfavourable circumstances, and so led me to infer that if the character of the growth were suitable, the difficulty of the operation need not be an obstacle to its performance.

In determining the propriety of operative interference in Mrs. Jepson's case, it seemed to me that the points principally to be considered were:—1st. The character of the tumour; whether simple or malignant? 2nd. The probable result, if the growth

^a Since writing the above I have found in one of the Journals of the Royal Infirmary for 1834, the report of a case of large cervical tumour, operated on by Mr. Liston. The tumour, which occupied nearly the same position as the cervical portion of my patient's tumour, had grown rapidly in about two years. In this case Mr. Liston found it impossible to remove the whole growth by the knife, and the part near the vertebræ was strangulated by ligatures passed through its base. The patient recovered at the time.—J. S.

were left to itself? 3rd. How far its enormous size, anatomical relations, and possible connexions with vitally important parts might endanger life, or prevent its complete removal?

Correct diagnosis as to the character of the growth is most important in deciding on the question of operation in all cases of tumour, as involving the probability of future immunity from the recurrence of the disease. But in the case of large tumours in the vicinity of important organs, it is also important as to the question of immediate danger to life in the operation. In my surgical lectures I have always dwelt upon the limitation of simple, as compared with malignant tumours, as a principle of great practical value. In simple growths, important organs—such as great vessels and nerves—may be pressed upon, pushed aside, or even surrounded by the tumour or its lobules; but the cellular sheaths are not destroyed; and even if the growth has formed adhesions to the sheath, the vessels themselves are free; whereas, in malignant growths we find no such limitation. On the contrary, the disease often invades all the textures, destroying the cellular sheaths, and involving the vessels and nerves themselves; and even when the mass of such a tumour is enclosed in a dense cyst, and apparently movable, it is not truly limited; but the narrow prolongations of the diseased structure dip deeply amongst the textures, and form such connexions as to defy any certainty of complete removal, as happened in the cases recorded by J. Bell and Warren, already referred to.

In the case of Mrs. Jepson, the originally slow progress of the growth, the comparatively unimpaired state of her general health, together with the appearance of the tumour and the absence of that anxious expression of countenance which marks most cases of malignant cachexy, were all conditions indicative of the simple character of the growth. Whilst the more rapid increase latterly noticed, though a reason for interference, was only what we find in most tumours, however benign, and depends on the enlargement of their vessels, and consequent increase of nutritive supply. So far, then, as the character of the growth was concerned, there was everything in favour of operation, as the tumour was neither likely to involve the neighbouring textures nor liable to recur after removal.

The second consideration was, the probable progress of the tumour if left to itself? As yet neither respiration, deglutition, nor any vital function, had been affected by the growth; but then it had, of late, begun to increase more rapidly in bulk, and over the

most prominent part the skin had a dusky red appearance, which showed a tendency to ulceration; and when that once commences, even in simple tumours, we know how rapidly they fungate, slough, and bleed—degenerating locally, and exhausting the patient by discharge and pain—and that their removal then becomes much more difficult and dangerous. Besides, the nutrition of the growth was evidently carried on at the expense of the patient's general health; for, though not cachectic, she had become pale, and felt more feeble than formerly; whilst the enormous bulk and weight, together with the increasing deformity, rendered her almost unfit for any duty, and gave rise to great mental depression, so that she was most anxious to have the tumour removed at all hazards. The consideration of these first two questions resulted in a decision favourable to operative interference. It now remained to consider how far the size and connexions of the tumour admitted of removal by operation without immediate risk to the patient's life; and to plan the procedure by which this could be most readily and safely effected. The great bulk of a tumour, though always a source of risk from the extensive incisions requisite for its removal, the amount of surface exposed, and the proportional hemorrhage, venous and arterial, does not necessarily render the operation more difficult; on the contrary, the very size gives a power of leverage which often facilitates the dissection. But when the mass is so situated as to present a large surface it may be adherent to, or in close connexion with vitally important parts, then the operation required for its removal becomes most formidable. These elements of difficulty and danger were present to their fullest extent in my patient's case; for, besides the enormous bulk of the tumour, it was developed beneath the sterno-mastoid, and its deep surface was necessarily in the closest relation with the great vessels and important nerves in the cervical region, from the lower jaw to within an inch of the sternum, and stretching backwards to the margin of the trapezius muscle; whilst the facial portion felt fixed in the parotid region, as if deeply nitched behind the ramus of the jaw; and it could be felt projecting towards the fauces within the mouth. The bulk, form, and position of the tumour rendered it impossible to ascertain positively whether or not it adhered at any point to the sheath of the vessels; and the apparent mobility of a large cervical growth can never altogether be depended on; for, even if it involve or be adherent to the vessels or their sheath, these, being loosely connected, move with the tumour on the more fixed parts. But in

the face of these risks I felt warranted to operate, on the following grounds:—First, as I have already said, the simple character of the tumour made me feel secure that, though it might displace, press upon, or even adhere to the sheath of the great vessels and nerves, it would not absolutely involve them. Secondly, the absence of any engorgement of the veins of the neck on either side, or of any marked alteration in the arterial supply of the right side of the face, made me pretty sure that neither the internal jugular nor the carotid could be very closely or extensively involved. Whilst the functions of respiration and deglutition being unimpaired, and no symptom of laryngeal irritation existing, rendered it equally clear that neither the vagus nerve, its branches, nor the phrenic, were as yet implicated.

Having thus satisfied myself that the tumour might be removed by an operation properly planned, and carefully and deliberately executed, I proceeded to determine the method by which it could be most readily and safely accomplished. The dangers to be apprehended were:—Hemorrhage from the arteries supplying the tumour, or, more likely, from the great veins returning the blood from it; the risk of air entering any of these large veins when divided; the risk of injury to the vagus or phrenic nerves; and the probability of meeting difficulty from adhesion of parts in the parotid region, where the tumour felt fixed; lastly, exhaustion of the patient from the necessarily tedious dissection and large exposed surface. To obviate these dangers as far as possible I determined to expose freely the whole surface of the tumour; to clear its edges; and, in doing this, to expose the anterior margin of the sternomastoid muscle, at the lower part of neck, so as to be able, if necessary, to compress the carotid; next, to divide the sternomastoid above and below, so as to leave the part adherent to the growth; to tie the external jugular with two ligatures, and divide it between them; and to pursue the same course in regard to all the larger veins passing towards the jugular or root of the neck, and to secure the larger arterial branches as divided. Ligature of the lower part of the common carotid, as a preliminary, with a view of diminishing loss of blood—which has been advised and adopted in the removal of tumours from the neck and face—I rejected as worse than useless, as not only incurring unnecessary risk to the patient, but as likely to lead to danger by inducing a false security in the operator, as its ligature could not control the retrograde hemorrhage from the free anastomosis superiorly; whilst

the free incision along the sterno-mastoid enables the assistant to control the carotid trunk quite as effectually, should it be necessary. Besides, in such a dissection, wound of the great internal jugular vein is much more likely to occur than injury of the carotid; and the best means of avoiding either is to disturb the natural relations of the vessels as little as possible, and to dissect with the edge of the knife directed towards the deep surface of the tumour, whilst the assistant insinuates his fingers in the track of the dissection, so as to protect the vessels. I decided, after clearing the tumour from the great vessels, to dissect the rest of the cervical portion from below upwards, so as to avoid injury to the phrenic nerve; and then to proceed with the dissection of the facial portion from above downwards and backwards, so as to leave the part which felt most fixed in the deep parotid region, and where I expected the largest vessels to enter the tumour, to the last. This plan I carried out, as detailed in the description of the operation, with the able assistance of my colleagues—Drs. Gillespie and Watson; and I had the satisfaction of removing entirely this enormous tumour, and so relieving my patient from what she and her friends had long regarded as a hopeless disease.

In a letter I have received from Mrs. Jepson, dated October 8th, 1863, she says:—"I am happy to inform you that I am in good health; the scars do not look bad; they are perfectly healed up, and gradually appear less."

ART. XII.—*Cases in Midwifery, from Dispensary and Private Practice.* By T. PUREFOY, M.D., &c.

CASE I.—*Tedious Labour; Convulsions after Delivery.*—E. S., a healthy servant-maid; first labour, January 12th. Slight pains commenced on the 10th ultimo, accompanied by a slow discharge of the liquor amnii, which now recur after long intervals; are weak and inefficient in character, chiefly affecting the lower portion of the back. The pulse and general temperature of the body are natural, but the bowels are obstinately confined. The os uteri is dilated to the size of a shilling—its edges thin, sharp, and unyielding, so that the pressure of the head during a pain occasions severe suffering. The patient being wearied, sleepless, and anxious as to the result of her illness, a purgative was administered, followed, after some time, by a sedative containing twenty-five minims of acetum opii. Two

hours' sleep followed; labour now progressed much more favourably, so that, in six hours after visit the dilatation of the os uteri was completed. Matters progressed favourably until the head rested upon the perineum; but at this period of the labour the pains lost much of their expulsive character, and only returned after long intervals, during which the patient slept profoundly; yet intellect was perfect; and on the return of each pain she complained much, but made little effort to aid the uterine contractions, soon falling into deep sleep upon the subsidence of pain. The head, having rested for about two hours upon the perineum, was finally expelled by the natural efforts; the whole duration of labour having been about twelve hours, and once only—half-an-hour before delivery—was headache complained of, whilst the pulse continued at ninety, and of moderate fullness.

Immediately upon the expulsion of the infant, and before its separation from the mother, a violent convulsive fit occurred of five minutes' continuance.

Upon the removal of the infant free hemorrhage set in, before the expulsion of the placenta, but was fortunately arrested upon this organ being expelled, and cold, with external pressure, diligently employed. There was no return of the convulsions; consciousness was restored after the lapse of an hour. The countenance was pale and haggard; pulse continued, for two hours, small, frequent, and feeble; the patient was drowsy, and indisposed to converse, but did not again complain of headache or other bad symptom. Made a good recovery, requiring no other medical treatment than the careful use of aperients to regulate her bowels.

CASE II.—*Placenta Prævia, Partial.*—M. C., aged thirty-two, visited 23rd February; found suffering under a severe attack of hemorrhage, which had recurred three times during the past six weeks, the discharge, according to her statement, being from the rectum. She believes herself to be about six months pregnant. An examination proved that the hemorrhage was from the uterus, per vaginam, and that slight labour pains were present, some portion of the liquor amnii having already escaped. The uterus was high up; os not to be reached unless coagula were detached, a proceeding which it was considered right to avoid for the present. The plug was employed, thirty drops tincture of opium given, and absolute rest enjoined. After three hours the labour pains returned vigorously; a small portion of the placenta descended with the child's

head to the os externum, and shortly afterwards the child and placenta were expelled together, without the occurrence of flooding or any other unfavourable complication. The infant was full-grown. Recovery good.

CASE III.—*Hemorrhage; Post Partum.*—Mrs. R.; sanguine and nervous temperament; fifth confinement; suffers habitually under dyspnea, induced by a very large “goitre” of several years’ standing; general health delicate; lower limbs anasarctous. Her labour commenced on the 23rd of June, at 9 p.m., and was completed in a period of four hours, the pains having been powerful and effective during this time, so that the placenta came away in twenty minutes after the birth of the child. A few minutes after the completion of labour, the uterine contractions became irregular, although, from the birth of the child, the uterus had been carefully and steadily compressed by the hand, in order so secure its permanent contraction. Notwithstanding that every precautionary measure, as pressure, cold applications, ergot, and the free admission of fresh air were diligently employed, efficient and permanent contractions were not secured, as the uterus became soft and enlarged upon the cessation of every pain. For some time excessive discharge was prevented; but, after the lapse of an hour from the expulsion of the placenta, an attack of sickness and vomiting was followed by the discharge of a considerable quantity of coagula, followed by pallor, faintishness, and feeble pulse. The uterus now became reduced to its normal size, under a continuance of the means already stated, when a pad and roller were carefully applied, and the patient anxiously watched.

Unfortunately, the pain, irregular contraction, and relaxation again set in, accompanied by free discharge of coagula. The roller was at once removed, the contraction of the womb secured by manual pressure, ergot given, and the cold applications again resorted to; but it was not until a period of three hours had elapsed that efficient and permanent uterine contraction could be secured. For several days this lady suffered from a recurrence of severe after-pains, accompanied by the discharge of coagula per vaginam.

CASE IV.—*Retained Placenta; Hemorrhage.*—January 13, I was hastily called upon to attend a strong, healthy, young woman, supposed, by the nurse in attendance, to be dying. She had given birth to a female infant about an hour before I had entered her

bed-room. The placenta was retained, and most profuse hemorrhage came on, inducing a state of sudden and extreme exhaustion. The surface of the body generally was cold and clammy; pulse scarcely to be felt, and the voice reduced to a whisper; uterus much distended, and hard, reaching up to the navel.

As no time was to be lost in trying to arrest at once the flow of blood, the hand was gently, and with ease, passed into the uterus, through the coagula which filled the vagina, when the uterus was found filled with clots, except where occupied by the placenta, which was firmly adherent, in a great extent, to the inner surface of the womb. The placenta having been detached, and brought towards the os uteri, the hand was retained above it for a brief interval, when the exhausted uterus, thus gently stimulated, and in great measure emptied of coagula, renewed its contractile efforts, and expelled the hand, *preceded* by the placenta. Firm pressure of the hand was now diligently kept up over the fundus uteri; cold applied to the vulva and hips; warm flannels wrapped round the feet and legs; a couple of doses of “the ammoniated tincture of ergot”^a given; fresh air freely admitted; and in the course of an hour all immediate danger was past. The patient, progressing favourably from this period, made a good recovery.

CASE V.—*Placenta Morbidly Adherent; Hemorrhage; Death.*—Mrs. G., a farmer’s wife, healthy, and mother of a large family, was attended by a midwife during a natural and rather quick labour. The placenta was not expelled, and in a very little time the poor woman became faint from profuse hemorrhage. I visited the patient in about two hours after the birth of her child, and found her in “*articulo mortis*.” She expired without a struggle a few minutes after I had entered her room.

A *post mortem* examination showed that there had been partial separation of the placenta, accompanied by internal hemorrhage. A thin dark coagulum showed the extent to which the placenta had been separated, whilst the remaining portion was morbidly adherent.

CASE VI.—*Difficult Labour; Failure of the Vectis; Perforation; Vesico-Vaginal Fistula.*—A labourer’s wife, of short, set figure, aged thirty-five, was taken ill of her second labour on the 14th

^a The preparation of ergot, which I use in labour cases, is a saturated solution, or aromatic tincture, of ergot, in pure aromatic spirit of ammonia. Dose, half a drachm to a drachm, alone, in cold water, or added to the usual infusion of ergot.

September. I learned at visit that her medical attendant found it necessary to deliver her first child with the forceps, and was not a little distressed at finding, upon a careful manual examination, that there existed considerable deformity of the pelvis, with projection of the sacrum forwards, so as to diminish its capacity very much. The head was yet so high, and the difficulty of examining so great, that the exact nature of the presentation could not be decided. As the pains were languid and teasing, and the membranes to be felt in the passage, they were ruptured, in order to excite increased uterine action. The uterus now acted regularly for some time, but the pains were unavailing and fruitless, whilst the head remained stationary during a period of five or six hours. The head remained above the brim of the pelvis, and no effort to alter and improve its position succeeded, as it could merely be touched by the points of the fingers. The vectis also failed to aid the progress of labour; and, as it was quite evident the infant could not be expelled by the natural efforts, it was decided, in consultation, to deliver by the crotchet. The operation was tedious and painful; and, although great care was taken to reduce the size of the head as much as possible, it required an unusual amount of extractive force to withdraw the head from its position. The placenta was expelled in forty minutes after the delivery of the child, and quickly followed by alarming hemorrhage, which fortunately ceased under the usual mode of treatment. It was found, upon a careful examination, that the perforator entered just above the right ear, thus accounting for the great difficulty experienced in bringing down the head. No untoward symptoms existed before, or for some days after, the delivery; but, unhappily, on the third day vaginitis set in, and caused sloughing, with a fistulous communication between the urethra and vagina. I subsequently heard, from her nurse, that this poor woman was confined a third time, when a small female infant was expelled by the natural efforts.

CASE VII.—*Hemorrhage, Post Partum.*—A small, delicate woman, aged thirty-four, was confined of her third child on the 16th November, at her full time. The labour was natural, occupying an interval of three hours of regular uterine action, unpreceded by any tedious or wearisome premonitory symptoms. During labour the patient was depressed and timid, whilst the pulse was small and compressible. Every possible care was taken to promote and secure efficient uterine contraction after the delivery, and pressure with

the hand over the fundus uteri continued for half an hour before applying the roller. However, just as this was done, the patient had a rigor, with a sense of chilliness and coldness of the extremities; followed by flushed face, full and frequent pulse, and a state of very decided reaction. Active hemorrhage immediately set in, when the roller was promptly removed, the uterus found soft, enlarged, and free from pain. Firm pressure, aided by the ammoniated tincture of ergot, with the usual adjuvantia, soon induced active contraction of the womb, when a large quantity of coagula was expelled; and the uterus, diminished in bulk, sank into the pelvis, leading to a delusive hope that all was well. However, the watchful guardianship of the hand over the uterus was not omitted; and during the lapse of more than an hour this organ was felt distinctly to *relax and contract* alternately under the hand, hemorrhage recurring with each relaxation, and again restrained as firm pressure, cold, &c., &c., served to induce efficient contraction. The roller was not re-applied until *permanent contraction* was established. The patient made a good recovery.

CASE VIII.—*Placenta Retained from Inertia; Hemorrhage.*—Patient of nervous and sanguine temperament; aged thirty-eight; ninth confinement. Labour natural, of about eight hours' duration; the pains during the last two hours having been frequent and very powerful in their influence upon the uterus.

The birth of a living female infant was followed by a most alarming flow of blood, accompanied by cessation of pain and syncope. The infant was promptly separated, firm pressure made over the fundus uteri, and cold freely applied. The hemorrhage was restrained thus, reaction slightly induced, and then the ammoniated ergot given in small doses repeatedly. In the lapse of twenty minutes the placenta was expelled, the hemorrhage so far restrained that the patient was considered free of all immediate danger in about an hour after the birth of her child. During the progress of labour considerable vascular excitement was induced, accompanied by flushing of the face, heat of the surface generally, and great frequency of pulse.

CASE IX.—*Sudden Death during Labour.*—A labourer's wife, aged thirty-six, married eighteen months, suffered from the effects of an abortion at about the third month of pregnancy, but subsequently enjoyed good health.

On the 11th of November, being then at the full period of gestation, slight labour pains came on, so that she was attended through the night by a midwife. She slept little, and complained only of pains in the back and loins for some hours, and then seemed oppressed and anxious, when she stated that she was "oppressed and squeezed about the heart." The breathing now became short, irregular, and embarrassed. At six on the morning of the 12th instant, she hastily called for her husband, expressed a feeling of approaching death, whilst at the same time the extremities became cold, and the whole surface bedewed by cold perspiration. These alarming symptoms became progressively more and more urgent, until the poor patient quietly expired in about half-an-hour from their commencement.

CASE X.—Precipitate Labour.—A delicate female, of small stature, was unexpectedly taken in labour, at the full period, whilst sitting upon the night-chair, and without having experienced any suffering like to labour-pains. During a straining effort she felt that something unusual had passed away from her, and immediately called out for assistance. She was quickly removed to bed, when it was found that a small living infant had been expelled from the womb, and was received into the night-chair, the cord having been torn across within a couple of inches of the umbilicus.

Although fifteen or twenty minutes had elapsed before the medical attendant could be procured, yet no hurtful hemorrhage took place from the cord. The mother made a good recovery; and baby progressed very favourably, until, unfortunately, cut off by an attack of pertussis, at the age of six weeks.

Remarks.—A few brief practical observations upon the preceding cases may not be altogether uninteresting or unimportant to the junior members of the profession, who are, perhaps, just entering upon the very arduous and important duties of the accoucheur.

The first case suggests the propriety, nay, even the necessity, of examining the condition of the os uteri, not only "during a pain," but also in the absence of pain, in order to learn correctly what its state may be. This simple rule is of much importance, since in some instances the uterus descends so low during the progress of labour, and becomes so thin and tense, by the pressure of the head from within during a pain, that it becomes very difficult to detect the os uteri until the pain ceases, the head recedes a little, the

uterus relaxes, and the lips of the os thus become developed and distinct to the touch. Indeed, cases will now and again be met with where, under the circumstances stated, upon a hurried or careless examination this condition of the uterus might be mistaken for a presentation of the membranes, in a rigid and unyielding state; perhaps thus inducing the medical attendant to shorten the sufferings of his patient by an attempt "to rupture the supposed membranes." I may add that such an unfortunate occurrence has happened, and has been faithfully recorded for the warning of others.

A question of much practical importance occurs here, as to the predisposing and immediate cause of the convulsions. The previous neglected state of the bowels, possibly a certain amount of plethora of the circulating system generally, inducing congestion in the cerebro-spinal system, were causes calculated to predispose the patient for the convulsive attack which was the immediate result of the act of parturition.

How impressively is the lesson here taught, as to the great importance of paying strict attention to the general health during the period of pregnancy, since, doubtless, the favourable termination of labour is, in every instance, very much dependent upon a previous good state of health.

The condition of the patient at my visit clearly pointed out the necessity for great caution in the use of opium; therefore an active purgative was given as a precautionary measure some time before prescribing the anodyne, which contained only twenty-five drops of the acetum opii. Its effects were decidedly beneficial in procuring refreshing rest and promoting the progress of labour. Yet, truly, opium is a remedy which can never be administered with safety where the most remote tendency to convulsive or apoplectic affections appears during the progress of labour. Here the patient was only six or seven hours in actual labour when the opiate was given, and then only in small quantity. The skin was cool, fever absent, pulse good, and no symptom present which contra-indicated its use, except constipation; and to obviate any danger from this state of the system a full purgative preceded the anodyne. Yet I am ready to admit the *suggestion* that the opiate might have favoured the pre-existing state of congestion, and so increased the liability to convulsions; stating, in reply, that, even with this remote danger in view, the existing symptoms demanded prompt attention, and that there is preponderating evidence afforded by the history of the case in favour of the opinion that, on the whole, the opiate was a fit

remedy and acted favourably. After the administration of the opiate the pains became regular and efficient, whilst the acute sufferings of the patient were much mitigated.

In some very distressing instances of acute sufferings, whilst the pains were frequent, irregular, and ineffectual in promoting labour, I have discovered the existence of local, organic, or functional disease of some important organ, and been led to consider how far this pre-existing disease might injuriously interfere with the normal and healthy condition of the uterine action during labour. Of course I do not here include organic or functional disease, which may have been in existence long previous to pregnancy, as it is well known that women, even in the last stage of consumption, will have strong pains and a favourable confinement. I would merely observe that in many instances where the pains have been irregular, non-expulsive in character, and yet occasioning much suffering, I have frequently found that local, organic, or functional disease existed, and would seem to me to exert an unfavourable influence upon the healthy and regular action of the uterus; but in what way I cannot explain—possibly, through the mysterious influence which we name “sympathetic,” thus depriving the uterus of its full share of nervous agency, and so unfavourably acting upon the progress of labour. At all events, the plain practical deduction from what has been stated is this, that it behoves the intelligent practitioner to exercise all due care and attention in preserving the health of his patient previous to delivery, and diligently to guard against the occurrence of any local disease which might subsequently interfere with the favourable progress of labour.

It was a remarkable fact, in the second case, that an experienced matron should have stated her case so ignorantly and so incorrectly. Here we see how important it is that the medical attendant should never satisfy himself, in any case of midwifery, with second-hand information, but faithfully exercise his own observing and reasoning faculties, that he may be enabled to form a correct diagnosis, when so much depends upon his doing so. This proved to be a case of partial placental presentation. Fortunately, the portion presenting was of small extent, so that the pressure of the head during active labour sufficed to arrest hemorrhage. It is true that formidable hemorrhage has occurred, or even proved fatal, under similar circumstances; but, doubtless, the timely rupture of the membranes proved a most important auxiliary in arresting the flow of blood, since the head was thus brought to exert direct pressure upon the

neck of the womb, and so close the bleeding vessels. Although the natural effort here proved sufficient to save the patient from imminent peril, we must remember that, as the exception proves the rule, so it is that in the vast majority of cases of placental presentation, the utmost promptness of action and skilled experience are imperatively required in order to save the life of the patient. This case would seem to favour the practice, now proposed, of passing the finger within and around the os uteri freely, and so detaching as much of the placenta as immediately adhered to the uterine neck, and then rupturing the membranes, that the head might be brought to press upon the os, and so arrest flooding. Under such circumstances the plug passed high into the vagina might be a useful aid.

The third case affords an example of post partum hemorrhage of a very formidable and dangerous character, since the occurrence of pain and sensible contraction of the womb, as detected by the hand, might lead to a belief that the natural efforts would arrest the flooding; yet I have found that this particular description of hemorrhage, arising, as it does, from irregular uterine action, is most troublesome in its progress, attended with much risk of life, and extremely difficult to control. There seemed to be an unusual amount of irritability of the uterus, indicated by distressing cramp-like pain; irregular contraction of this organ, manifested to the hand in making careful pressure over its fundus, whilst the contractile efforts were transitory, alternating with relaxation, and so giving rise to the profuse flooding which inevitably attends upon all such cases. The sanguine and nervous temperament would seem to predispose for the occurrence of this unfortunate complication. It is remarkable how large a quantity of blood may come away in these cases, in occasional gushes, before syncope is induced, leading to the supposition that the uterus may have been engorged with an unusual amount of blood in its sinuses during pregnancy. In the management of this case, pressure diligently made by the hand, over the fundus uteri, so as completely to regulate its contractions, and continued so long as the urgent symptoms may require it, is of the last importance. As auxiliaries, cold applications, or injections of cold water into the vagina, and the free circulation of cold air, are essential; whilst, in extreme cases, it may be necessary to apply warmth carefully to the feet and legs. I have never found it necessary to introduce the hand into the uterus in such a case as the one under consideration. A most important question here arises,

as to the propriety of using opium to correct this morbid condition of the uterus. I have tried it, under the sanction of high authority, but it did not improve the action of the uterus, or tend to control hemorrhage: and, therefore, I feel bound to prefer the plan of treatment above sketched to using opium in the hope of inducing normal and persistent uterine contraction. It was curious and instructive in this case to observe the tendency to irregular, and very painful, contractions of the womb, which recurred during three or four days. Recovery was good.

As, in many instances, differences become more striking by contrast, so it is in the present example. The cases four and five, considered as to their history, symptoms, treatment, and termination, afford convincing proof of the imminent danger consequent upon a partial separation of the placenta at the full period of pregnancy, even although this accident might not occur until after the birth of the child. We are also taught that, when this dangerous separation takes place *before* the delivery, the patient's safety depends upon emptying the womb, and securing its permanent and efficient contraction by the judicious employment of such means as the case may require; and that in post partum flooding a somewhat similar rule is to be observed in removing the placenta and securing efficient uterine contraction. As there did not appear to be any morbid adhesion of the placenta in case four, probably the mother's life was perilled in consequence of neglect or ignorance, in not taking care to secure the due contraction of the womb during the last stage of labour. There exist strong grounds to believe that in the fifth case life was forfeited through the want of due assistance in the hour of trial.

The sixth case was a singularly unfortunate one, comprising an abnormal presentation, together with deformed and contracted pelvis. In a practice of twenty-eight years, I have only twice met with a presentation of the side of the head. In both cases the crotchet was required, and one sunk under the effects of low fever. In this woman's first confinement it was found necessary to use the perforator and crotchet, because of the disproportion between the child's head and the pelvic cavity. The third child was small, born by the natural efforts, and had a hare-lip. The midwife stated that the face presented.

The seventh case affords an illustrative example of what I should propose to name "the hemorrhage of reaction," since it commences with the symptoms of reaction and subsides as they

are subdued. The hemorrhage here does not seem to depend upon deficient or irregular uterine action, as it occurs where the labour has progressed most favourably through all its stages. The symptoms which precede and accompany the attack are those of unduly excited and increased vascular action. The subjects of this form of hemorrhage are generally delicate females, and of a sanguineo-nervous temperament, liable to palpitations and flushings. It is an insidious and dangerous form of flooding, since the successful and speedy termination of labour may throw all parties off their guard; and thus, when least expected or thought of, a fainting fit may be the first warning of the alarming state of the patient. The discharge generally occurs within the first hour after delivery, and often after the lapse of about thirty minutes. It seems probable that a certain amount of exhaustion, induced in a delicate, weakly subject by the act of parturition, predisposes to this form of flooding, and that the tone and contractile power of the uterus may be deficient at the critical moment when reaction and general arterial excitement is set up—just such as often follows upon sudden loss of blood and other debilitating causes. In the present instance, a state of anxiety, depression, and feebleness of pulse continued during labour, and contrasted strongly with the high excitement which so quickly followed upon the completion of the delivery. I have always avoided the introduction of the hand into the womb under the circumstances here described, and have found the plan of treatment already stated to be quite satisfactory in its results. Stimulants, during the stage of excitement, are obviously contra-indicated; and, even where symptoms of exhaustion are induced, they must be resorted to with due care and watchfulness as to their effects upon the pulse. Strict attention, upon the part of the medical attendant, is required during the progress of labour, and for some time after it is completed. Possibly the early application of the binder, and the use of ergot immediately upon the birth of the child, might tend to avert this peculiar form of post partum hemorrhage. The permanent contraction of the uterus will be promoted by steady, continuous pressure made upon its fundus, from above downwards, so as to reduce the volume of this organ, and favour its descent into the pelvis. During this proceeding the uterus will be distinctly felt at one period contracted, reduced in size, and firm under pressure, and then to relax stealthily, as it were, and so to glide away from under the hand until its outlines are no longer traceable, and a gush of blood indicates a state of

alarming relaxation. This tendency to irregular action may continue for a considerable time, requiring imperatively the most assiduous care and attention. I have been urgently requested by a midwife to aid in delivering a poor woman of a *second child*, and, upon attending, found that the uterus was so enlarged as to reach the umbilicus; and yet, upon examination, there was nothing to be removed but an enormous quantity of coagula.

It would appear that in the eighth case hemorrhage resulted from the partial separation of the placenta during labour. The labour, although of short continuance, was, at its termination, accompanied by very violent efforts and severe suffering, so inducing an amount of excitement likely to favour the occurrence of flooding, and affords a salutary warning to be prepared for this dreaded complication. I have not seen any bad consequences follow upon the free application of cold wet napkins, and free exposure to cold air during a state of high arterial excitement—these remedies appearing to be the proper antidote for such a state of the system—but, if unduly continued *after the subsidence* of this state of excitement, doubtless injurious results will follow.

The ninth case affords a sad proof of the manifold dangers which beset the “hour of travail,” and becomes a painful example of the very remote source from which death may proceed. When it is remembered that a similar catastrophe may occur in any class of society, and in the hands of the most experienced, we must admit that this case is one of deep interest to every practical accoucheur. The occurrence of sudden death, during the progress of an apparently natural labour, would be an occurrence but too likely to lead to a charge of either ignorance or neglect upon the part of the medical attendant. Here, however, is a case recorded, affording abundant proof that the sudden and unexpected death of the patient was solely the result of natural causes utterly beyond the reach of human skill, either to control or remove them. The only symptoms indicative of the fatal malady, by which the patient was carried off, were a certain amount of anxious and oppressed breathing, with coldness of the limbs, but in nowise so distressing or urgent as to lead the midwife, a woman of much experience, to apprehend any immediate danger. The labour progressed favourably, and the presentation was natural; and had not a *post mortem* examination revealed “fatty degeneration of the heart,” the cause of death should have remained a mystery. Doubtless this important organ, in its enfeebled and altered condition, proved inadequate to the increased efforts which

it was called upon to make during the progress of labour. We have here an impressive warning as to the necessity of being extremely cautious in giving an opinion as to the *probable result* of any given case of labour, however apparently favourable existing symptoms may be.

In a medico-legal point of view, the tenth case is of some interest, as proving the possibility of accidental delivery, and ruptured funis, without any assignable cause, whilst the alarmed parent was wholly unable to succour herself or infant. We learn further that ruptured funis may occur in unassisted labour, and yet not give rise to fatal hemorrhage from the infant. A capacious pelvis may favour such an accident, especially when the infant is small, as in the present instance.

In conclusion, I would observe that it is always a matter of vital importance, in the treatment of uterine hemorrhage, to have our minds made up as to the peculiar circumstances and symptoms in each particular case, which should influence us to exhibit opium freely. From past experience, I cannot look upon opium as an appropriate remedy to *restrain* flooding; even in cases of irregular and painful uterine action, where the action of opium might reasonably be supposed to be salutary, and tend to arrest flooding by inducing regular and permanent contraction of the womb, this remedy has disappointed me. Doubtless, the exhaustion which follows upon hemorrhage, is best treated, in most instances, by the free exhibition of opium, hence I have always considered opium "the remedy" for *exhaustion*, as it occurs *after* uterine hemorrhage, rather than a remedy for the hemorrhage itself.

ART. XIII.—*Case of Pneumo-Thorax without Perforation, Rapidly Consecutive on Simple Hyperacute Pleurisy.* By WILLIAM SWAYNE LITTLE, M.B., T.C.D., Surgeon to the County Sligo Infirmary.

R. M., aged twenty-two, shopman, of very temperate habits, excellent constitution, and hitherto in the enjoyment of robust health; no hereditary disposition to pulmonary or other disease.

On the 28th of July, having occasion to go to Bray, and fearing he would be late to catch the train, he ran a long distance to the station, overheated himself, and got chilled in the train. The

following day, while leaning over the counter for a considerable time, taking stock, he was seized with a violent stitchy pain of the right side. A mustard blister and a dose of purgative medicine considerably relieved him; but the stitchy pains still continued, though he attached no importance to them.

On the 2nd of August, he returned, on business, and with his employers' leave, to his mother's residence, in the county of Sligo. His mother remarked that he had a cough, but he made light of it, and continued to bathe in the sea (as had been his habit in Dublin) for four days, when, his cough increasing, his mother made him discontinue the practice. On the 9th of August, he got a cough mixture, a warm plaster, and some purgative pills, from an apothecary in Sligo. In this way he remained—not quite well, nor very ill—till the 31st of August, when he came into the town of Sligo. On the following day, which was rough, cold, and very wet, he had occasion to walk about town a good deal, till late at night, when he returned to his lodgings, chilled, and tired, and with wet feet. Any cold or wet increased the pain of side, chest, and shoulders, since the date of the first attack in Dublin. That night, shortly after going to bed, he was seized with a violent aggravation of the pains, which mustard cataplasms and stupes of hot turpentine failed to relieve. On Wednesday (the following day), the people of the house, apprehending fever, as he was rapidly getting worse, insisted on his being removed to the fever hospital. When seen by Dr. Homan, the physician to that institution, and told that his case was not fever, he begged to be removed to the county infirmary, which adjoins the former hospital; and, accordingly, on Friday, he was admitted to the county infirmary, and came under my care sixty hours from the date of this second pleuritic seizure.

Before seeing the case I was prepared for something unusual, by my pupils (all ardent stethoscopists), who told me that a strange case of acute pulmonary disease had just been admitted, which had puzzled them all. On reaching the bed-side I was struck by the remarkably animated and intelligent expression of the patient's countenance, and by a tendency to volubility, which must have distressed him, and which I tried gently to check. I mention these things to show that aspect is not always a reliable guide, as certainly no one could have imagined, at first sight, that this patient was in the urgently dangerous condition which the stethoscope soon revealed and the result so very rapidly proved. The above history of the case, from the first slight pleuritic attack, on the 29th of

July, was taken from the much longer, and very clear and intelligent, statement of the patient.

On stripping the chest, the patient lying on his back, the following conditions were observable on a first glance:—Immobility and increased dimensions of right side, with obliterated intercostal spaces; the left side expanded and contracted laboriously, and the heart pulsated tumultuously, far over to the left side, not under the axilla, as is usual in copious thoracic effusions into right pleura, whether gaseous or liquid, but about midway between the axilla and lower rib, or between fifth and sixth ribs. There was little or no abdominal respiration—the abdomen itself being tense and tympanic—that function appearing to be carried on, almost exclusively, by the vicarious over-action of the left side. So far, all was consistent with the diagnosis of hyperacute pleurisy, with rapid and copious serous effusion; but, on percussion, I was unprepared to find the *whole of the right side presenting an absolutely drum-like resonance*, so loud and clear as to make percussion over the left (or sound) side *appear*, not merely relatively, but absolutely, dull. This preternatural resonance extended over the whole side, anteriorly and laterally. The patient was then assisted into a sitting posture, when the abnormal resonance below was exchanged for complete dulness, the limits of which were very clearly defined by a well-marked abrupt line, corresponding with the sixth and seventh intercostal space. This established the fact of the existence of liquid effusion to the extent indicated by the dulness; and I have no doubt we should have heard the splashing sound, but that the patient's condition prevented our using the necessary degree of succussion. The opportunity was now taken of measuring the chest, when the right side was found an inch larger than the left. On this subject I may remark, in passing, that the usual allowance of half-an-inch, for the greater capacity of the right side, appears to me to have been adopted hastily and on insufficient proof, as, in very many admeasurements of the chest, I have observed, generally speaking, no such disparity, and in a very large proportion of cases absolutely none. When again lying down, we observed that the abnormal clearness on percussion extended far to the left side of the mesial line, indicating mediastinal displacement, and accounting for the cardiac dislocation. The ear was now applied to the chest for the first time, the left lung presenting everywhere loud puerile respiration, the right perfectly silent. The amphoric resonance was especially well marked on speaking or coughing. The sound was

peculiarly ringing and metallic; and, though I cannot say that I ever heard anyone cough or speak with his head bent over an empty copper boiler (Dr. Watson's similitude for this sound), I can well imagine the two sounds to be singularly alike.

The rational signs in this case need hardly be detailed. They were:—Violent stitchy pains of the side, especially severe along the margin of the ribs and insertions of the diaphragm; frequent cough, with frothy mucous expectoration; dyspnea; respiration, 50; pulse, 140, compressible and markedly dicrotous; furred tongue; thirst; anorexia; confined bowels; decubitus, solely on back; a bluish tinge of cheeks, lips, hands, and chest betokened insufficient aëration of blood; head unaffected, the intellect remaining clear, and even vigorous, to the last.

Before offering any remarks on this case, it will be as well to state the results of the *post mortem* examination, for which we fortunately, but with great difficulty, obtained the permission of the family. Suffice it to say that the very active treatment which we deemed appropriate had no effect, and that our poor patient died on Monday morning, at two o'clock, just sixty hours after admission, and five clear days from the date of the attack—death resulting immediately from apnea, from the increasing pressure of the effused air on the left lung. For twenty-four hours before death, the smell of the patient's body, and particularly of his breath, was intensely cadaveric, exactly resembling the odour of a fresh body recently opened.

Autopsy, sixteen hours after death.—The external appearance of the chest was the same as that observed during life—manifest general enlargement of right side, and now evident *protrusion* of intercostal spaces. I know we have high authority—the very highest, in fact—denying the possibility of this phenomenon; but it undoubtedly did exist in this case. Moreover, these intercostal spaces presented a highly tense and elastic feel, precisely that conveyed to the fingers when pressing a stout Indian-rubber ball, such as are made for children's toys. The appearance of the side is, perhaps, better described by the graphic French term *bombe* than by any other. The resonance on percussion was everywhere the same as during life, or even encroaching still farther beyond the mesial line on the left side; in fact, it was more resonant on percussion than the abdomen, which was intensely tympanitic, and as hard as a board. This tenseness, elasticity, and protrusion of the intercostal spaces were still more remarkable when the integument and muscles were raised, showing a high degree of condensation of the confined

air, and the great mechanical pressure it must have exercised. The thorax was now punctured with a small hydrocele trocar, when the air rushed out, with a loud noise, through the canula, and with such force, and for so long a time, as to extinguish, several times, the flame of a candle held at a distance of several inches. The condensation which the constantly increasing aëriform effusion undergoes, and the consequent enormous pressure it can exercise on the lung, mediastinum, and diaphragm are well exemplified in this case, as in another of empyema with pneumo-thorax, detailed by Dr. Houghton (*Cyc. of Pr. Med.*), in which the thorax was punctured for the evacuation of the matter, below the level of fluid, the matter being projected with *surprising force*, and *to a great distance*, by the pressure of the condensed air above.

In our case this air or gas was destitute of all smell, and did not ignite.^a I now very much regret that I did not collect a portion of this air, as I might easily have done in a bladder, tied over the neck of a gum elastic catheter, for the purpose of a rough analysis. A large triangular section of ribs was now raised quickly, revealing a state of things which it was almost impossible to believe could have been the result of diseased action of hardly five days duration. The right thorax appeared perfectly empty of lung, and of almost double its natural capacity—a result of the permanent and remarkable displacement of the mediastinum, which had been pushed so far to the left side that the points of the fingers introduced behind the sternum could raise the intercostal space within an inch (to the mesial line) of the left nipple. A lighted taper, immediately introduced into the farthest corner of this immense chamber, and before the air without could have displaced or become intimately mixed with that which it contained, burned without any change. The lung lay flattened up against the mediastinum, except inferiorly, where it adhered to the diaphragmatic pleura, over a space of a circular form and about the size of a half-crown piece. It presented the appearance of a thin, flattened mass, about nine inches in length, three in breadth, and not half an inch thick. The whole of its surface, as also that of the diaphragmatic and costal parietes, were

^a I make this observation, which may, at first sight, appear irrelevant, because, many years ago I had the opportunity of performing the operation of paracentesis on a cow dying of pneumatosis, the result of mangold surfeit; and the gas (hydrogen?) which for some time I was enabled to evacuate, by means of a large gum elastic catheter, burned steadily with a pale blue flame whenever a lighted candle was applied to the orifice of catheter.

covered everywhere with a thick exudation of plastic lymph, of a dirty, dark fawn colour—in some places, particularly over the diaphragm, so consistent as to be capable of being peeled off in large flakes, like a recent false membrane. There was a serous effusion to the extent of thirty-eight ounces—muddy and turbid, with flocculi of lymph, but not a drop of pus.

I now, with great care, removed the lung, keeping as close as possible to the root, not a drop of blood escaping from the large vessels. Thrown into water, it sank heavily; and cut into, had lost all traces of a resemblance to the pulmonary structure, but for the larger bronchial tubes, standing out here and there stiff and cartilaginous; it presented a good example of what has been termed the carnified, in contradistinction to the hepatized lung. Through the bronchial tubes we now easily re-inflated successive portions of the lung, so as to render them crepitant to the fingers and capable of floating on water. We did not need any further proof of the absence of pneumonic complication; nevertheless, every portion of the organ was minutely dissected and explored. It was evident that the functions of a perfectly sound organ had been suddenly destroyed, simply and purely by the mechanical pressure of the effused air, and its volume reduced to probably less than a fiftieth or sixtieth of its original capacity.

Remarks.—Though the rare disease, now termed pneumo, or, more properly, pneumonia-thorax, had not escaped the notice of Hippocrates—from whom the splashing sound heard where air and liquid are together present in the pleural cavity aptly received the name of “Hippocratic fluctuation;” and the mode employed to elicit this sound, that of “the Hippocratic method”—nevertheless it was not, as Dr. Houghton observes, till 1803, “when Itard published his dissertation, and assigned it its present name, that pneumo-thorax came to be considered, not as a mere accidental complication in some rare cases of empyema, or as only occurring after death, but to constitute, in itself, an important pathological condition.” The knowledge of this eminent physician, however, and his contemporaries, was exceedingly limited and inaccurate, and, in fact, abounding in absurdities, as might be surmised from the fact that, even in those comparatively modern times, morbid anatomy, and the pathology of thoracic diseases in particular, were little studied, and less known; and Laennec’s magnificent discovery had not as yet thrown its flood of light on this special and interesting

field of observation. As might be anticipated, it is to the stethoscope alone we owe, or ever could owe, whatever of precise knowledge we possess on these subjects; and to Laennec that we are indebted for the first approaches to that precision and accuracy which now signalize the diagnosis of thoracic diseases, and the explanation of their multiform results. Nevertheless, though this rare and interesting affection has been since illustrated by the labours of Laennec, Louis, Andral, Broussais, Royer, Saussier, Stokes, Graves, Williams, and others, I believe that, even at the present day, the question of the origin of the effused air in certain cases of pneumo-thorax has not been definitely settled, or satisfactorily disposed of; and it is particularly in reference to this hitherto open question or moot point that I consider the foregoing case as specially important and satisfactory.

Dr. Houghton, in his excellent article on pneumo-thorax, gives a very complete summary of the knowledge of that day; it is as follows:—

“Two sources are recounted by which air in the cavity of the pleura may originate. *It has been said* to be generated within that membrane; and it may be introduced from without. The former is the origin to which Itard ascribes it, in every case; and Laennec assents to this manner of explaining the six cases which he cites. In all these cases the pneumo-thorax was accompanied by a pleuritic effusion—the consequence, as they relate, of phthisis; and the latter author was of opinion that the gaseous development was caused by a decomposition of a part of the albuminous matter suspended in the puriform effusion; this, he adds, is rendered probable by the odour of sulphuretted hydrogen which the air exhaled. Neither this nor any of the other circumstances by which they were attended,” adds Dr. Houghton, “would incline observers at the present day, furnished with more precise and extended information, to agree to this method of explaining it; on the contrary, the examination of their details exhibits sufficient evidence to authorize us in referring them to a cause (the admission of air from without), which will be hereafter mentioned, as by far the most common of all. The other processes by which air may be developed within the pleura, as recounted by Laennec, will be afterwards adverted to. It may be stated that some of them are merely conjectural. . . . It may be laid down, as proved by the recorded experience of medical men, that where pneumo-thorax

exists *the air has been introduced from without.* The cases of an opposite description are so rare that they must be considered as exceptions to the rule. . . . The pleura, according to Laennec, in very rare cases, takes on the secretion of air, like the other serous membranes. This may take place singly, or the elastic fluid may accompany an aqueous or puriform effusion. *This variety has not been decidedly established by other pathologists* since the time of Laennec; and we record its existence merely on his authority, and on that of Andral, who relates a case of it in which, however, this origin was not unquestionably proved."

Dr. Copland, that generally diffuse and voluminous writer, who seldom treats a subject without thoroughly exhausting all that can be, or has been, said about it, in his article "Pneuma-thorax" (*Dic. of Pr. Med.*) dismisses the pathology of this disease in the following few lines:—

"Pneuma-thorax is the consequence of lesions, generally of both the lungs and the pleura, allowing *the irruption of air into the pleural cavity*, and thereby suddenly occasioning severe circumscribed pain in one side, great anxiety, and extreme dyspnea. It may occur at any period in the course of phthisis, &c."

In the article "Pleurisy," by the same able author, we find the following special allusion to the *presumed* origin of pneuma-thorax, occasionally, in the chemical decomposition of the other morbid products of pleurisy. These observations, however, do not touch the question at issue, or admit of any reference to the above case, as none of the conditions which are supposed to favour the chemical decomposition alluded to existed.

"The spontaneous evolutions of gaseous fluids from the products of pleurisy has been believed in by some pathologists and denied by others. The question at issue is, whether these products may become so decomposed during the life of the patient as to form a gaseous fluid. We know that this effect is not unfrequently observed after death. Dr. Hodgkin doubts the possibility of it during life, and Andral and Hasse appear to agree with him; for, in cases which occurred to them, in which gas *seemed* to have been spontaneously evolved from those products, they admit the possibility of some perforation of the pleura, though they failed to detect it.

Although the exuded matters, fluid as well as more consistent, may long remain unchanged, so long as the vital energies are not very much impaired; yet, when these energies are very far reduced, the products of inflammatory action are either insufficiently or no longer controlled by them, and various changes must ensue; some of these changes may be ascribed to endosmosis and exosmosis, others to the state of vascular action and of absorption, and a portion even to incipient putrefaction. The ulterior changes of the more fluid matters in pleurisy are not, as yet, fully ascertained; and the question as to the spontaneous evolution of gas from these matters is still undecided."

Graves, whose acute intelligence (sometimes, we must admit, on purely speculative and theoretical data) enabled him occasionally to anticipate the results of practical demonstration, has a very interesting and valuable reference to this subject in his excellent lectures. To him, undoubtedly, is due the credit of having first assigned "pleural secretion" as an occasional origin and solution of some obscure and puzzling cases of pneumo-thorax, though the explanation of this phenomenon which he offers (*viz.*, the absorption of atmospheric air into a depleted vascular system) is, no doubt, fanciful and incorrect. The following are his observations:—

"In the case I have now called your attention to, the air found in the pleural sac made its way through the fistulous openings connected with the bronchial tubes. This is the ordinary form of pneumo-thorax; but, although the fact has been doubted by many writers, my experience leads me to the conclusion that air *may be secreted into the pleural sac*. Andral, who at one time believed that pneumo-thorax might occur thus, has, I find, changed his opinion; and, in some lectures recently published, states that *air is never met with in a shut sac, unless it has made its way there by a rupture*. Now, the following are my views:—When there has been long-continued loss of blood from any cause, the blood contains an unusual quantity of air, for nature, by absorbing air, in these cases makes an effort to keep the vascular system sufficiently full, and this air may be secreted into any part of the body."

Dr. Graves then proceeds to detail fully two very interesting cases of pleuro-pneumonia—one of the left side, with extreme cardiac dislocation, the infero-anterior portion of left side of chest

giving a preternaturally clear sound on percussion, *particularly in the region usually occupied by the heart*; the other of the right side, in which the development of air in the right pleural sac followed suddenly on extreme pneumonic dulness, and as suddenly disappeared in sixteen hours, when the pneumonic dulness again reappeared.

Dr. Williams, in *The Library of Medicine*, remarks on these cases:—"Pneumo-thorax is also said, by Graves, Hudson, and others, to have occurred, in a few instances, at the commencement of pneumonia, and to have soon afterwards disappeared; but as the chief sign in these cases was a remarkable resonance on percussion, we suspect that these were examples of the production of tracheal or amphoric sound, from consolidation of the upper lobe of the lung, and not pneumo-thorax."

As both of Dr. Graves' patients recovered, we cannot consider them as satisfactorily proving what he seeks to establish, in the absence of the crucial test of a *post mortem* examination. Though I quite agree with him that the criticism of that eminent opinion and authority, Dr. Williams, is utterly invalidated by his having omitted all notice of the remarkable dexocardia which occurred in Graves' first case, failing to account for which his other objections may literally count for nothing.

Dr. Williams, in *The Library of Practical Medicine*, has the following observations:—

"Pneumo-thorax may be produced in three ways:—First, it may be the consequence of a partial pleurisy. We have mentioned that after a pleuritic effusion has long compressed the lung, and the compression has been perpetuated by a rigid false membrane formed over it, the absorption of the liquid leaves a void, which the collapse or contraction of the walls of the chest is, in some cases, insufficient to obliterate; and this void is sometimes filled by air secreted by the membranes. We have seen two instances of partial pneumo-thorax produced in this way; they each occupied about half the pleural sac—the one the upper, the other the lower half—and the lung in both cases was strongly bound down by fibro-cartilaginous membrane. This kind of pneumo-thorax is very rare.

"Another kind of pneumo-thorax is that which may be called 'idiopathic,' and arises from an effusion or secretion of air into the sac of the pleura without perforation. This is also of rare

occurrence; *it is said* to occur sometimes towards the termination of fatal disease, in the same manner as tympanitis occasionally occupies the peritoneal sac under similar circumstances. We have never met with such a case in which the signs of pneumo-thorax were observed during life; but we have several times seen a little air in the pleural sac, when opened after death, without any discoverable perforation of the pleura. It is possible that a little air may have been exhaled from the animal fluids after death, and then increased by exosmosis through the lung. The facility with which air permeates dead membrane countenances such a notion."

The third kind is that above referred to in Dr. Williams' observations on Dr. Graves' cases.

Dr. Watson, in his excellent lectures, while he is, as usual, extremely graphic in the symptomatology and descriptive history of pneumo-thorax, is rather undecided, and even vague, as respects its pathology. After treating of the metallic sounds and amphoric resonance, &c., he says:—"They are very singular, and they are perfectly decisive, as far as my experience goes, of the presence of air in a considerable cavity within the thorax, which cavity mostly contains liquid also, and of the presence of air and liquid in the cavity of the pleura in particular. I do not know that the liquid is essential—I do not believe it is—but commonly there is some liquid and a good deal of air; almost always, too—but that is not indispensable—the cavity communicates with the external air either through the walls of the chest or through the bronchi, &c.

"Sometimes air is effused into the sac of the pleura in consequence of the rupture of dilated air-cells on the surface of the lungs; sometimes gas is generated there from the decomposition of effused liquids, and in such cases the gas has a strong odour of sulphuretted hydrogen; sometimes, again, gas *appears to be secreted* by the membrane itself. All these events are, however, uncommon."

Dr. Stokes, in his work, *Diseases of the Chest*, discusses the subject of pneumo-thorax under the three following heads:—

- 1st. In pneumonia.
- 2nd. With fistula from phthisis.
- 3rd. In gangrene.

It is only in a passing reference, under the first of these heads, to Dr. Graves' cases, above referred to, that we find anything specially referable to the question of pneumo-thorax *by secretion*, on which,

however, this eminent authority is unmistakably explicit. In treating of pneumonia complicated with pleurisy, he says:—

“In this disease there are three conditions of the pleura which produce physical signs—

“1st. The effusion of lymph.

“2nd. Of sero-purulent fluid.

“3rd. Of air.

“I have arranged these in the order of their frequency. The first is almost constant; the second is comparatively rare; and, out of many hundred cases, I have seen but one example of the third.”

After enumerating the pleuritic physical signs in pleuro-pneumonia, he proceeds:—

“But of all those signs the most remarkable is the tympanitic clearness over the diseased lung, a phenomenon evidently proceeding from an effusion of air by secretion into the serous cavity. The first writer who noticed this subject is Dr. Graves, who published, in 1835, the remarkable case, to which I have before alluded, of pneumonia with *bruit de soufflet* and throbbing of the chest.”

The case to which Dr. Stokes refers, in the above quotation, as the only one in his (then) experience affording an example of this rare phenomenon—namely, the effusion of air from an inflamed pleura—was one of severe typhoid pneumonia, running rapidly into hepatization. It is thus described:—

“On the eighth or ninth day of the disease the antero-superior portion of left side, where, on the previous day, there had been complete dulness, gave a clear, sonorous, tympanitic sound, similar to what is produced in the stomach in the highest state of flatulent distension. On the following day the tympanitic clearness had extended to the postero-superior portion of chest; but, on the following day, all had subsided, and the chest was again dull, with absence of vesicular murmur.

“This case is decisive as to the question, how far the tympanitic resonance is to be referred to a distended stomach? That such was not the case here is evident; for the sound only existed in the upper portions of the chest, and the region of the stomach was never tympanitic.”—*Diseases of Chest*, page 334.

Towards the conclusion of a very able article by Dr. Hudson, entitled, "Observations on Typhoid Pneumonia, with Cases," published in the seventh volume of *The Dublin Journal*, page 372, I find the following remarks:—

"I shall next advert to the remarkable phenomenon presented by cases two and seven of '*tympanitic clearness on percussion over a solidified lung, without air being present in the pleura.*' I do not know any word to express this sound; it varies in degree rather than in kind from that produced by percussing over the empty stomach or cecum; and is like the *tintement metallique* of percussion of Martinet and Andral, sometimes heard over a tubercular cavity.

"In the twelfth and sixteenth numbers of *The Dublin Journal* Dr. Graves has described two cases of pneumonia, accompanied with morbid clearness on percussion, which he explains by secretion of air from the inflamed pleura; and I observe that the learned editor of *The Medico-Chirurgical Review* not only concurs in this explanation, but gives a case precisely similar to the one last related by Dr. Graves, adding that 'dissection has not yet confirmed conjecture in any of these instances.' Having met with four cases in which the observation of 'the phenomenon was followed by dissection,' I shall briefly relate them. The first, which, at that time, surprised me not a little, was that of a man who died of extensive inflammation of left lung in the Meath Hospital, in the Spring of 1832. At the close of this case, from the *hollow* sound on percussion of the lower part of left side (previously quite dull), a pretty general opinion existed that a pneumonic abscess had formed and burst into the pleura. The side was punctured accordingly, *but no air escaped; and further dissection showed the pleura adherent to two-thirds of the lung, red and solid, but no abscess.* The next was a man who presented himself at the same hospital with the history and symptoms of phthisis; and on percussion under the right clavicle, there was such a muffled, tympanitic sound, with tracheal respiration and vocal resonance, that all who heard these phenomena expected to find a large tuberculous cavity. Dissection, however, *showed the lung hard and solid throughout, from chronic pneumonia.* The other two cases (numbers two and seven of this paper) were similar to that of Drillon. It seems to me very obvious that these cases cannot be brought under the explanation given by the high authorities just quoted; and I confess myself quite unable to give one which would be considered more satisfactory. In some instances

it has been accounted for by the transmission of the sound of the tympanitic stomach through the solid lung. I think this explanation will apply to three of my cases which occurred on the left side; the fourth will demand a different one, and it might, perhaps, be found in the facility with which the vibration of air in the bronchus and its larger divisions, might be supposed to be communicated through a lung in that condition, that is, solid throughout; and, therefore, not permitting the loss in a mixed medium of solid and healthy lung, of such vibration. This is a mere conjecture, which may be readily denied and not easily confirmed; but of the fact I am certain *that a sound equal at times in clearness to that of pneumo-thorax may be yielded by (or rather through) a solid lung, under certain conditions*; and since the researches of Graves, and Stokes, and Andral, have shown that absence of all sound of respiration may exist in the same circumstances, I submit that a great mistake is likely to arise from too hasty an explanation of the combined phenomena, by supposing the existence of simple pneumo-thorax."

Now, I think it must be perfectly obvious, on a careful perusal of the above extracts from the writings of a few of the most eminent of our stethoscopists and thoracic pathologists, that, even up to the present day, there does not exist in the profession a definite and explicit knowledge as to the origin of æriform effusion in some rare and exceptional cases of pneumo-thorax; those, for example, which Graves has termed (not very accurately, I think) simple pneumo-thorax. "Simple *pleuritic* pneumo-thorax" I would, with some diffidence, suggest, as a better designation, at once associating it with its undoubted pathological cause—pleural inflammation—and contradistinguishing it from all those cases where the effused air is derived from without the pleural sac. To Graves, undoubtedly, belongs the credit of having first suggested the possibility of pneumo-thorax originating in a secretion of air by an inflamed pleura. Stokes alone, of all the eminent pathologists whose opinions are cited above, gives an unqualified assent to this view; and though the arguments in support of this view, founded on the remarkable physical signs observed in three cases by Graves, and in one only by Stokes, coupled with the eminence of the authorities who advance them, are undoubtedly strong, they can hardly be deemed conclusive and unimpeachable in the absence of *post mortem* verification, in the face of some well-known sources of fallacy, and taking into account the more or less of imperfection to which

physical diagnosis must, in some cases, be ever subject. Even in the case of so able a stethoscopist and pathologist as Dr. Hudson, we have seen that the most practised ear and the most accomplished intelligence may fall into grievous errors of diagnosis, which only a *post mortem* examination could rectify. Undoubtedly, in Graves' case (the first cited above) of extreme cardiac displacement to the right side, with tympanitic resonance on percussion all over the infero-anterior surface of the chest, *particularly in the region usually occupied by the heart*, all the conditions of an infallible diagnosis appear to have been rigidly fulfilled; and yet we find so eminent an authority as Dr. Williams flatly denying its correctness; and in the last of Dr. Hudson's four cases we see that we may have tympanitic percussion *and vocal resonance* in the sub-clavicular region over a lung *hardened and solidified by chronic pneumonia*.

I need not encumber this paper (which has already run to a greater length than I anticipated) by many more observations of my own. The application of what I have already written, and of the quoted extracts, to the case with the history and *post mortem* examination of which I have commenced, is obvious. It appears to me that, over and above its direct value in the elucidation of the *questio vexata* so often alluded to, this case possesses a singular interest in the comparative simplicity and distinctness of the lesions revealed by the autopsy—a simplicity and distinctness which disembarass us at once and effectually of many sources of error and fallacy, which a case of more complicated and diversified lesion might have entailed. Had the patient been the subject of long-standing pulmonary or other delicacy—had the disease lasted sufficiently long to have induced other or more complicated organic changes—or had the case been so complicated from the first—were the lung tubercular or pneumonic—or had the liquid effusion been purulent or sero-purulent, instead of simply serous, our difficulties in assigning a precise origin for the immense and rapid æriform effusion would have been proportionately increased. But here we have a young man, previously healthy, suddenly struck down by an acute inflammatory attack, and dying in five days; and of the precise nature of this attack and its results there cannot be a second opinion. There can be no mystification of the simple pathological conditions revealed by the *post mortem*—no room for the discussion of a minute fistulous communication with the bronchial tubes which might have escaped detection, or of any other possible or imaginable *ab extra* source of the effused air. It was unmistakably a case

of simple hyperacute pleurisy, resulting in, at most, two days—very probably in a few hours—in “*simple pleuritic pneumo-thorax*,” the consequence of secretion of air from the pleural membrane. If the detail of the *post mortem* examination be referred to, it will be seen that the utmost care was observed in the examination of the lung, and there cannot be the shadow of the possibility of an error in the conclusion arrived at—that the organ was perfectly sound. Successive portions of it, it will be seen, were re-inflated through the bronchial tubes, restoring its vesicular structure, and rendering them capable of floating lightly on water, as portions of a healthy lung would do. Every portion of it was afterwards dissected throughout, and minutely examined over and over again, and not a trace of tubercle, or drop of pus, or an approach to *morbid* condensation was anywhere present. In fact, as stated before, it was manifest “that the functions of a perfectly sound organ had been suddenly destroyed, and its substance crushed and carnified, simply and purely by the mechanical pressure of the confined and extremely condensed air.”

I believe, then (if I have not been, without my knowing it, anticipated in the matter), that the foregoing case offers the first perfectly satisfactory solution of an old pathological puzzle, satisfactory in all its details—in its history, physical diagnosis, and especially in the very clear and unmistakable evidence furnished by a careful *post mortem* examination. I may be mistaken, but it appears to me that not a link is wanting in the chain of demonstration, that in certain cases of inflammation of the pleura (which must be *exceedingly rare and exceptional*) that membrane is susceptible of taking on a peculiar morbid action, whereby air is *copiously secreted* into the pleural sac, inducing a rapidly fatal form of that disease which I have ventured to designate “*simple pleuritic pneumo-thorax*.”

P.S.—Since writing the above, my friend, Dr. Lynn, has shown me, in the Sydenham Society *Year-Book* for 1861, the advertisement of “A Case of Empyema, with Consecutive Pneumo-Thorax, without Perforation, by W. Keller,” from *The American Journal of Medical Science*, January, 1861. I have not read the case, so cannot say whether it anticipates my communication in any important particular. I have also, in *The Lancet*, for April 10th, 1849, encountered a notice of an interesting paper, read before the London Royal Medical and Chirurgical Society, by Dr. Hamilton Roe, of

Westminster Hospital. The author enumerates four distinct sources from whence the air may be derived:—1st. *From secretion.* 2nd. *From decomposition.* 3rd. *From rupture of emphysematous cells.* 4th. *From fissure.* The only case bearing at all on the present inquiry (the details of which are not given) was, I presume, one of empyema. The author attributes the pneumo-thorax in this case to decomposition.

ART. XIV.—*Paralysis Caused by Working Under Compressed Air in Sinking the Foundations of Londonderry New Bridge.* By T. H. BABINGTON, M.D, Surgeon Londonderry County Infirmary; and A. CUTHBERT, M.D., Medical Officer Glendermott Dispensary, Londonderry.

THE new bridge recently erected over the river Foyle, at Londonderry, is an iron structure, nearly 1,300 feet long, consisting of two platforms or roadways—the lower for railway traffic; the upper, a carriage way, with footpaths for passengers and ordinary traffic. The whole structure is supported on 16 cast iron cylinder piles, placed in pairs, 35 feet apart, at intervals of 119 feet. Resting on the centre cylinder there is a swing-bridge, which is opened and closed for navigation. Each cylinder is 11 feet in diameter; $1\frac{1}{2}$ inch thick; and, when sunk to the proper foundation, was filled with concrete, composed of sand, gravel, and cement. The centre cylinder supporting the swing bridge is 30 feet in diameter; and rests on seven smaller ones, 8 feet in diameter. These cylinders were all sunk to solid foundations before being filled with the concrete; and these foundations were obtained at various depths—the greatest depth 75 feet from the surface of the water,^a and 40 feet below the bed of the river.

^a In the London Times for July 7, 1859, we find the following notice of a bridge built on the Nile:—

“The Kaffre Azzyat Bridge.—This important, malleable, iron girder beam-bridge across the Nile, is nearly 1,400 feet long; has 11 openings—2 of which are 104 feet each; and spanned by a swing beam. The centre of the swing rests upon a foundation pier, composed of 6 pillars of 10 feet diameter each; and the remaining 11 foundation piers are of 2 pillars each, 10 feet diameter. These 28 foundation pillars were sunk by compressed air, on Mr. John Hughes’ principle, to an average depth of nearly 60 feet below the bed of the river, and to 85 feet below high water. The internal pressure on the caissons, while sinking, ranging from 20 lb. up to 34 lb. on the square inch, in accordance with the depth of the ground and the height of the Nile.”

It is obvious that to sink these cylinders, and to effect the excavation at such a depth, was a work of no ordinary difficulty. The workmen were to be got into, and out of, the cylinders; the cylinders were to be kept empty of water; excavations were to be carried on; the contents of the cylinder, earth, stones, &c., to be removed; and the concrete for filling to be introduced. All these objects were accomplished under the direction of Mr. Hughes, the able and indefatigable resident engineer, by the same means and machinery which he had first successfully used in sinking the foundations of the bridge over the Medway, at Rochester, and afterwards at Chepstow, and at the viaduct at Saltash. A detailed account of the plans adopted at Rochester is to be found in the tenth volume of *The Proceedings of the Institution of Civil Engineers* for May 13, 1851, in a paper by Mr. Hughes, entitled "The Pneumatic Method adopted in Constructing the Foundation of the New Bridge on the Medway, at Rochester. By John Hughes, C.E." We are indebted to, and beg to thank, Mr. Hughes, for kindly placing all his papers at our disposal.

The idea carried out was to give each cylinder the character of a diving bell during the operation of excavating and removing the materials from the interior, and filling in the concrete. Each cylinder was to be kept free from water, to enable the workmen to excavate until the cylinder was sunk to its proper foundation, and all the matters promptly removed from the interior; and the cylinder should be made to descend vertically.

To carry out these objects—that is, to sink the cylinder to its proper foundation—to excavate the interior—to keep the cylinder dry and free from water—and to remove the contents and introduce the concrete for filling, Mr. Hughes designed an apparatus as follows:—One of the cylinders—7 feet in diameter, and 9 feet long—was fitted with a wrought iron cover, securely bolted to it; through this cover 2 cast iron chambers, called air locks, projected $2\frac{1}{2}$ feet below the top of the cylinder, and 3 feet 9 below the cover—D shaped, with a sectional area of 6 square feet; the top of each air lock was provided with a circular opening, 2 feet in diameter, with a flap working on a horizontal hinge, which served to close it hermetically when the cylinder was filled with compressed air. The communication from the chamber to the inside of the cylinder was through a rectangular opening, 2 ft. by 3 ft. 4 in., on the flat side of the chamber, and had an iron door working on vertical hinges, to close it hermetically when required. The flap was analogous in

its use to the lower gate of a canal lock, and the door to the upper gate. The air locks were furnished with cocks communicating from the cylinder to the chamber, and from the chamber to the atmosphere. Each lock had two sets of cocks—one accessible from the inside of the chamber, for the use of men passing into and out of the cylinder; the other for use in passing buckets through the air locks. One cock, communicating between the chamber and atmosphere, was in charge of a man inside the cylinder, who, having closed the door, could let off compressed air, and so pass a bucket from within to the outside; another communicating from the interior of the cylinder to the chamber, was worked by a man outside, who had power, on closing the flap, to fill the cylinder with compressed air, and to pass a bucket from the outside to the inside. Light was admitted by lenses, and candles were burned at the bottom. Compressed air was supplied to the pile by a double-acting pump, with 2 barrels, 12 inches in diameter, and 18 inches stroke, driven by a 6-horse power non-condensing engine; the air supply pipe was $2\frac{1}{2}$ inches in diameter. The pumps being set in motion, the flap of one of the air locks, and the door of the other, were closed; a few strokes compressed the air within the pile sufficiently to seal the joints; and every subsequent stroke delivered an additional quantity, until the density was sufficient to expel the water (either underneath the cylinder or through a syphon) and leave the bottom dry. Whilst the pumping was in progress the men passed through the air locks to their places—each man dropped into one of the air locks, of which the flap was open; this he closed with one hand, and with the other opened the cock which admitted compressed air from the pile into the air lock. As soon as equilibrium was established between the two, the door opened with the slightest force, and the man stepped on the stage within the cylinder. A man could pass from the inside of the pile to the outside by the same lock, by closing the door and opening the cock communicating with the atmosphere.

The men worked under variable pressure—in some instances 27 or 28 lb. to the square inch; in others, as high as 35 and 38 lb.; and, in one instance,^a as high as 43 lb. The effects experienced by the workmen were pain in the ears, which soon passed away, or was

^a The amount of pressure was indicated by a gauge inside the cylinder, the indications of which denoted the increase of pressure above that of the atmosphere at 15 lb.; thus, an indication of 28 lb. on the gauge would represent a total pressure of 43 lb.—viz. 28 lb. + 15 lb. weight of atmosphere.

relieved by the act of swallowing; headache; increased sense of hearing; anomalous pains in the limbs; occasionally bleeding from the nose; and a feeling of general distress and uneasiness. These symptoms were all much increased when, the air-cocks having been opened to the full extent, the transition from one medium to the other was too rapidly effected. The state of the general health and the previous habits of the workers appeared to exercise considerable influence on the symptoms. These symptoms were felt on first passing into the compressed air, but to a much greater extent on the pressure being removed, on their passage from the cylinder to the external air; and in this stage of the works the serious and fatal* effects were produced.

CASE I.—On the evening of 3rd October, 1861, Dr. Cuthbert was summoned to visit Denis M'Loughlin, aged 28 years, who had become suddenly ill on reaching the open air from the interior of one of the cylinders. Dr. Browne, of Londonderry, was in attendance, and had requested Dr. Cuthbert's assistance. M'Loughlin, after working for four hours under a pressure of 23 lb. to the square inch, had, on reaching the outer air, suddenly fallen into a state of insensibility. He was at once carried into a shed close at hand, by his fellow workmen, who ineffectually endeavoured to pour some stimulant down his throat. He was lying on his back in a state of total insensibility; the surface of his body cold and livid; eyes nearly closed; right side of face partially paralysed, and the mouth drawn to the opposite side; strabismus of right eye; pupils of natural size, but very sluggishly obeyed the stimulus of light; the pulse at the wrist very weak, fluttering, and irregular, and with difficulty reckoned about 150; first sound of heart almost inaudible; second sound quite so; respirations very irregular, varying from twenty-four to forty-four in the minute; inspiration a very short jerk; expiration prolonged, moaning, and laboured; respiratory murmur heard feebly over every part of the chest with the short inspiration; teeth firmly clenched; no lividity of lips;

* Mr. Hughes has informed us that he had no fatal cases at either Rochester or Chepstow, and only one at Saltash, in a man of broken-down health, who died on leaving the cylinder, in which he had been a very short time. At the sinking of the Kaffre Azzyat bridge five Arabs died from effects of pressure—one in the cage, coming out, before he reached the outer air; another became exhausted in the cylinder, and died after passing through the cage; the three others died in a similar way. All were men without stamina. Blood issued from their mouths, noses, and ears. These fatal cases occurred when the pressure was above 30 lb.; the death in the cage was at 36 lb. The men working below did not complain of inconvenience or suffer from accident.

sometimes the mouth moved, and the tongue slightly protruded; when the soles of the feet were briskly rubbed with a coarse towel there were slight muscular movements of the legs. The patient's condition seemed hopeless in the extreme, being a strange compound of those states which we are in the habit of denominating *coma* and *asphyxia*. It was at once evident that serious mischief had occurred in the brain, producing the facial paralysis and deep stupor, and that this mischief had extended to the medulla oblongata and upper part of spinal cord was only too probable; thus implicating an important portion of the respiratory tract, and accounting for the serious respiratory distress. At the same time the heart's action was so weak that the pulse at the extremities was almost imperceptible, and the normal second sound was altogether absent. A small quantity of sal volatile was poured down his throat, and the surface of his body was briskly rubbed so as to restore the natural warmth, and the lower extremities were immersed in a hot mustard bath. The heat of surface was restored, but no other perceptible improvement was evinced. After much anxious deliberation it was determined to try the effect of a cautious blood-letting, and twelve ounces of blood were slowly taken from the arm (the blood was black, very black, viscid, and treacly). The pulse remained unaltered whilst the blood was flowing; but, as the respiration seemed to become more laboured, when the above quantity had been drawn, it was deemed prudent to desist. An enema, containing two drachms of sulphuric ether and half an ounce of turpentine, was injected into the rectum and retained, but no effect whatever was thereby produced upon the pulse or respiration. The man's state underwent no alteration, except that the respiratory movements became gradually more feeble, and he sank at six p.m., on the 4th of October, exactly 24 hours after coming out of the cylinder.

CASE II.— — Carlin was similarly seized about the same time. His condition was so entirely alike that of the previous patient that any minute description of his state is unnecessary. In his case there was no facial paralysis. Strange to say he lived exactly the same length of time as the other patient, viz., 24 hours.

CASE III.—October 10, 1861. W. M., aged 23, reported as being seriously ill after working in a cylinder of new bridge; when visited was found much depressed, but quite sensible, complaining of severe pains in his legs and thighs; pains not increased by pressure, but described as being very sharp and shooting. He was quite unable

to walk, and his legs and feet were cold and numb. He was sitting with his feet *almost in the fire*, and several of his toes were considerably burned without his even experiencing the sensation of heat. This man had not been taken ill suddenly, as he had had pains in his legs for some days previously, and it was some hours after coming out of the cylinder that he became so ill as to require medical attendance. The man was put into a warm bed, and given a little brandy, and his legs were briskly rubbed with a stimulating liniment. In two days he was quite well, with the exception of his burned toes, which slowly healed.

CASE IV.—Daniel Doherty, similar case to above; severe pains in legs relieved by stimulating liniments. This man had hemoptysis some short time afterwards, but is now quite well.

CASE V.—James M'Nulty, aged 18, went to work in the cylinder on the morning of 3rd October, 1861. After being four hours under pressure, on coming out of the cylinder into the air lock, and whilst the pressure was being lessened, he fell helpless. He was visited immediately, and was found lying in a semi-comatose condition, able to answer questions on being roused, but speedily relapsing into a state of insensibility. The comatose symptoms passed off in about 18 hours, when he was found to be totally paralysed from the fourth rib, to have retention of urine, loss of sensation, and all the usual symptoms which accompany the worst form of injury of the spine in the cervical region. He was next day removed to the County Infirmary, where he remained till his death, on the 17th of March, 1862, having been in hospital 160 days; sensation or the power of motion never were restored. For a long period before his death he had incontinence of urine and feces, and died exhausted from the effects of universal bed sores.

CASE VI.—John Murray, aged 30, admitted to infirmary with precisely similar symptoms as in M'Nulty's case, with the exception that the paralysis and loss of sensation did not extend above the 8th dorsal vertebra. He lived 30 days, and died from the effects of bed sores so often seen in spinal injuries.

He was a man of weak constitution and of irregular habits.

These are notes of four fatal cases, and two not fatal. Many cases of slight paralysis and muscular pains, and other anomalous nervous affections, came under observation, but it is unnecessary to enter into the particulars of each case.

It is much to be regretted that we were unable to have a *post mortem* examination on any of the cases, and we freely admit that the interest attached to them is much lessened thereby. It may seem out of place to offer any opinion as to the cause or nature of the symptoms in the absence of so essential an element to the full understanding of the subject. We may, however, hazard a speculation which may be taken for what it is worth.

It seems clear that in all the cases the nervous system was chiefly and primarily implicated. The idea of any noxious element in the condensed air, which has been broached by some, must be abandoned, as the workers^a suffered no inconvenience during their stay (from three to four hours) in the cylinder; all the cases of serious illness occurred on the removal, more or less sudden, of an excess of pressure. It seems reasonable, in the absence of any other cause, to suppose that this sudden transition from a condensed to an ordinary atmosphere gave rise to the serious and fatal injuries we have recorded. Why should this sudden change so remarkably affect the nervous system? It seems to us that what under ordinary circumstances is the protection of the nervous system from injury and accident, becomes in these cases a cause of danger and fatal disease. The brain and spinal cord, encased as they are in bony cavities, and having their vascular supply conveyed through vessels similarly encased, cannot yield to alternating rates of pressure with the same facility as parts of a more elastic and pliant nature. Hence the brain, working together with the other parts of the body under excessive pressure, cannot, when the pressure is removed from the surface, accommodate itself to the altered circumstances so rapidly as other organs; the excess of pressure on the brain and spinal cord must pass off by the narrow passages in which the blood is carried to and returned from the brain and nervous system generally. The bony canals in which the vessels are enclosed render this process a tedious one, and the excessive pressure has, therefore, a tendency to expend itself on some of the delicate structures of the brain or cord, causing rupture of smaller vessels or other analogous injury, and thus producing the fatal catalogue of symptoms which ended in the deaths of the four workmen, whose cases we have above recorded.

^a That there was no excess of carbonic acid gas was evident from the fact that the candles in the cylinders burned with increased brilliancy. Hens, dogs, and rabbits, were kept at the bottom of the cylinder for many hours without any symptom of suffering or injury.

ART. XV.—*Notes on Diabetes Insipidus.* By the Rev. SAMUEL HAUGHTON, M.D., Fellow of Trinity College, Dublin.

I AM indebted to the kindness of my friends, Dr. Law, Dr. Hudson, and Dr. Stokes, for the opportunity of observing the following cases; and to the skilful assiduity of Mr. A. W. Foot, M.B., for the accuracy with which two of them are recorded. These cases appear to me worthy of record for different reasons: the first, from its connexion with diabetes mellitus; the second, from its apparent causes—alcohol and syphilis; and the third, from its obvious relation to well-marked cerebro-spinal symptoms.

CASE I. (Sir Patrick Dun's Hospital, under the care of Dr. Law).—M'Cabe (aged fifty-five?) was admitted into Sir P. Dun's Hospital early in November, 1859, with symptoms of moderate diabetes. He was about fifty-five years of age, according to his own account; but, as he recollected the insurrection of 1803, in Dublin, he must have understated his age considerably; and was, probably, sixty-six years old—a supposition confirmed by his statement, that he had no personal recollection of the rebellion of 1798.

On the 21st November I collected his urine for twenty-four hours, and found that he passed 6 pints, of sp. gr. 1007·70, which contained, *inter alia*, the following ingredients:—

Urea,	.	.	.	.	.	.	.	340	grs.
Sugar,	.	.	.	.	.	.	.	147	„
Albumen,	.	.	.	.	.	.	.	none.	
Phosphoric Acid,	.	.	.	.	.	.	.	33·24.	
(With Alkalies, 30·84									
With Earths, 2·40).									

When asked about the quantity of urine he passed, he said that he always passed all that he drank, more or less; and constantly repeated—"Sure, I pass what I drink; my skin is no good."

He seemed rather fuzzy in his intellect; but, perhaps, not more so than a man of his age, worn out with hard work and bad food, has a right to be.

I examined his urine again on the 7th February, 1860, and found the following results:—He passed, in 24 hours, $7\frac{1}{2}$ pints of urine, of sp. gr. 1002·9, containing, *inter alia*, the following:—

Urea, ...	261·4 grs.
Sugar, ...	none.
Albumen, ...	none.
Phosphoric Acid, ...	32·8.

(With Alkalies, 23·8

With Earths, 9·0).

His daily food, at this period, consisted of:—

Bread, . . . 12 oz., equivalent to	200 grs. urea.
Milk, . . . 1 pint	58 „
Tea, ^a . . . 1 „	6 „
Beef Tea, . . 1 „	28 „
Porter, . . . 3 „	81 „
Whey, ^b . . . 4 „	— „
Total	373 grs. urea.

M'Cabe was frequently offered the use of animal food; but always said that since he had taken “the thirst,” about twelve months ago, he had ceased to care for solid food.

It appears, from the preceding observations and calculations, that the food used by M'Cabe was quite sufficient to account for the urea passed by him; and, as his weight was 140 lbs., it follows that the quantity of urea per pound, of body weight, at the two periods of observation, were 2·43 grs. and 1·87 grs., respectively. This latter amount falls below the 2 grs. per pound which I have shown to be essential to the healthy performance of the work included in the term *opus vitale*; and it was observed by us that, at the period when this occurred, a partial semi-torpor of his mental faculties supervened, and that he presented all the symptoms of incipient uremia.

Another feature of great interest in this case is the fact that it appeared to be the termination of a case of *diabetes mellitus*, which had passed into the stage of *diabetes insipidus*. I am quite certain that I could not be mistaken in my first determination of the amount of sugar present, as I repeated my experiments on the subject with consistent results.

No history of the case could be obtained previous to admission into hospital; and he left us to go to some friends in the country, shortly after my second observation.

^a The tea of Sir P. Dun's Hospital contains 1 oz. of tea to 6 pints of boiling water, which can scarcely be called “the cup that cheers,” though it certainly does not “inebriate.”

^b The whey is composed of sour milk and new milk, in the proportion of 7 to 9.

CASE II.—John Fox (aged thirty-one), admitted into the Meath Hospital at the close of 1860, suffering from constant thirst and diabetes, and requiring treatment for syphilitic nodes on the right scapula. Dr. Hudson and Dr. Stokes both considered that he had also well-marked symptoms of incipient laryngeal phthisis. He had contracted syphilis some years before in New York; and had been an intemperate liver in many ways. He attributed the commencement of “the thirst” to a carouse on Lager beer and brandy, in New York, during the hot weather; and on the morning following his debauch an intolerable thirst had seized him, from which he had never subsequently been free.

I made many observations on his case—the principal of which are contained in the following table; and, at the request of Dr. Stokes, I paid particular attention to the relation between his drink and urine, so as to test the allegation that, in similar cases, the urine sometimes exceeds the drink in quantity. Mr. Foot personally superintended the arrangements made for this purpose by Dr. Stokes and myself; and the utmost reliance may be placed on the recorded results, which show, as, indeed, might be expected, that the liquid *ingesta* always exceeded the liquid *ejecta*.

DIABETES INSIPIDUS.—*John Fox.*

MEATH HOSPITAL.

Date	Weight, lbs.	Drink, oz. 24 hours	Urine, oz. 24 hours	Sp. Gr.	Urea, grs. 24 hours	Urea, grs. per lb.	Phosphates Earthy Alkaline grains in 24 hours		Sulphuric Acid, grs. 24 hours	Chlorine, grs. 24 hours
1860. Dec. 13-14th	109·5	380	305	1003·54	500	4·5	11·76	16·80	—	—
Dec. 14-15th	—	290	260	—	—	—	—	—	—	—
Dec. 17-18th	—	310	280	—	—	—	—	—	—	—
Dec. 18-19th	—	260	230	—	—	—	—	—	—	—
Dec. 19-20th	113·5	227	210	1003·94	386	3·4	37·8	—	—	—
1861. Jan. 9-10th	116·5	—	240	1005·04	512	4·3	26·2	—	24·83	—
Jan. 16-17th	114·5	—	200	—	426	3·7	—	—	—	98
Jan. 23-24th	—	—	300	—	423	—	—	—	—	84·75
Jan. 29-30th	105	—	315	—	413	3·9	—	—	—	—
Feb. 6-7th	109·5	—	—	—	283	2·5	Fixed salts=132·6		—	—
Feb. 13-14th	—	—	140	1004·04	266	—	—	—	—	—
Feb. 29th	109·5	—	—	—	—	—	—	—	—	—
March 5-6th	—	—	220	—	303	—	—	—	—	—
March 14th	114·5	—	190	—	274	2·4	—	—	—	—

The urine was carefully examined for both sugar and albumen on each occasion of observation; but not the slightest trace of either of these substances could be discovered.

The quantities of urea, of phosphoric and sulphuric acids, and of chlorine, are natural, and fully accounted for by his food; and, in fact, the only abnormal constituent of the urine is the water, which appears to be simply the measure of his thirst. In this case excessive thirst was the prominent symptom, if not the only one connected with the diabetes. The term *Polydipsia*,^a therefore, appears to be a sufficiently suitable name, if any alteration be required in the well-known expressive and correct term—*diabetes insipidus*.

CASE III.—Ellen Reilly (Meath Hospital)—*Diabetes Insipidus, with Partial Hemicrania*.—Oct. 5, 1861. Ellen Reilly, aged forty-three, was admitted into the Meath Hospital, into Dr. Hudson's wards, passing a large quantity of pale urine, of low specific gravity, containing neither sugar nor albumen. Cause of admission was not the diuresis, which was a moderate trouble to her, compared with a periodic, intermittent pain, which she experienced in the left side of the head and face, extending down the left side of the neck, along the trapezius muscle, to the scapula, accompanied with involuntary jerking movements in the fingers of the left hand. This pain she had been subject to for a year; and, during that period, had been free from it but one week, which temporary relief followed the application of six leeches and two blisters. The pain returned every morning; and was frequently attended with enlargement of the left eye, and puffiness of the affected side of the face.

She was the mother of eleven children, of whom one was dead; had lived twelve years in America; two years before present date she had attacks of rheumatic gout in the middle fingers of each hand; and, on other occasions, had three attacks of same affection in the toes of the left foot.

Oct. 11, 1861.—A few days after admission her weight, dressed, was 8 st. 4 lbs.; clothes weighed 15 lbs; weight, naked, 101 lbs.

Quantity of urine passed in 24 hours was 76 oz.; sp. gr. 1011; containing 404 grs. urea; no sugar, no albumen, no oxalic acid.

^a ἡ πολυδίψια νόσος. The well known line of Homer may be quoted in support of this term, which was first used for this disease by the illustrious Becquerel:—

καὶ κεν ἐλέγχιστος πολυδίψιον Ἄργος ἰκοίμην.—*Il. Δ.* 171.

She had no appetite at all; great thirst; constant constipation—no evacuation for three weeks; frequently disturbed during night to make water. Tongue dry, coated with white fur; pulse 80, natural in force and frequency; impulse and sounds of heart normal; no symptom of internal or external dropsy; nor has she ever had any.

Oct. 17th.—The hemicrania being very severe, 4 leeches were applied to the left temple. In a short time the pain and puffiness subsided; but returned, as usual, at 5 a.m. next day. The urine of the current 24 hours was 145 oz., pale and turbid, like whey; no albumen, no sugar. Urea=634 grs.; phosphoric acid=43·81 grs.

Her diet while in the hospital was:—

Breakfast, ...	tea, 1 pint.
Dinner, ...	soup, 1 quart.
Supper, ...	tea, 1 pint.

She seldom even tasted the allowance of bread; and did not use the portion of meat sent up in the soup.

Left hospital on 21st October.

CASE IV.—*Diabetes Insipidus.*—Mrs. Fannin (Meath Hospital).

April 29, 1862.—A married woman, named Fannin, was admitted into the Meath Hospital. She died suddenly on the fourth day after admission. On each of the two whole days during which she had been alive and in the hospital she had passed 9 quarts of urine; sp. gr. 1002; containing neither sugar or albumen.

The history of her case is, unfortunately, very deficient. Her great cause of complaint was an abdominal tumour which she had had for a long time. Its origin (as did her constipation, great thirst, and diuresis) dated from a fever she had nine years ago. The nature and cause of the tumour was revealed by the *post mortem* examination, which was made seven hours after death. The large intestine was immensely distended with accumulated fecal matter; while above the ileo-cecal valve, the small intestines, for a considerable distance, were filled with gas—accounting for the alternate clearness and dulness, on percussion, of parts of the abdomen, during life. The obstruction was caused by a tumour, the size of an orange, situated between the back of uterus and the front wall of the rectum; connected to each of these parts by fibrous bands, and pressing firmly on the latter. The tumour cut like India-rubber; its section was white and firm, with gritty particles through it.

The mesenteric glands connected with the colon were enlarged and hardened, having the size, shape, and colour, of cherry stones.

The kidneys were closely invested by thickened fibro-cellular tissue, detached with difficulty; the periphery of each presented irregularities of surface, depressions, and cicatricial marks, whitenesses, and thickenings of the fibrous capsule; the cortex of the left had many small cysts embedded in it, containing thick, viscid, yellow secretion. Both kidneys were enlarged—the right weighed 7 oz.; the left, 6½ oz. On section the left showed very little distinction in colour between the secreting and tubular portions; these parts were better marked in the right. There was a mixture of red striæ through the cortical and medullary structures in each; and the infundibula were thickly streaked with full blood vessels.

The heart was large, and weighed 22 oz.; but there was no appearance of valvular disease; all its cavities were empty; the pericardium contained 10 oz. of fluid; the liver and spleen were each large, but normal in appearance; the brain was only imperfectly examined; but it presented no obvious anomaly.

ART. XVI.—*Tertiary Syphilis.—Third Series;*^a *the Growth, Progress, and Present State of Knowledge of Nervous Syphilitic Diseases.*
By THOMAS READE, M.B., L.R.C.S.I., Belfast.

IN two former articles, published in this Journal, I endeavoured, by the recital of cases submitted to my treatment, to exhibit to the profession certain forms of nervous diseases connected with the advanced or later stages of constitutional syphilis; and by so doing, to direct attention to a serious error usually taught in our surgical schools—"that the brain was in no way susceptible of the constitutional poison of syphilis." This error is now, or quickly will be, universally exploded by a true interpretation of the facts bearing on the point, that have been adduced by many competent observers of the phenomena attending syphilis in its later stages.

As the first series of cases which I gave for publication, and denominated syphilitic meningitis, had been diagnosed and treated some years before the publication of Dr. Todd's important and valuable clinical lecture on the same subject, and as our descriptions of

^a See Dublin Quarterly Journal, vols. xiii. and xxx., for First and Second Series.

the clinical facts nowise differed, and were the result of observations made separately, at distant places, and without inter-communion, they afforded strong testimony that there had been no inaccuracy or misapprehension on either part—in fact that the diagnosis had been sound and reliable.

A large measure of the notice my first paper has received I cannot fail to ascribe to the connexion of Dr. Todd's name with the same subject. His position, eminence, and high repute with his profession, secured readers, and an interest in every subject he placed before them. His precedence, no doubt, prepared the minds of those who are not chained to the chariot wheels of authority to continue their inquiry, indifferent to the place whence or from whom contributions to knowledge came, “*de augmentatione scientiarum*,” a needful memorial for all physicians.

In order, clearly to submit the whole matter to the minds of those who study disease with the object to attain a secure and fixed diagnosis, I will commence my researches into the growth, progress, and advancement of our knowledge of syphilitic disease, connected with the brain and spinal marrow, by quoting the opinions and decisive judgments of John Hunter and Sir Astley Cooper, as they have been recorded.

“Some parts of the body are incapable of being acted upon by the venereal poison, as the brain, heart, and abdominal viscera; indeed the venereal poison does not appear to be capable of exercising its destructive influence on the vital organs, or those parts most essential to the welfare and continuance of life; but the bones, muscles, and skin readily partake of its malignant nature.”^a

“But it would appear that some parts of the body are much less susceptible of the lues venerea than others, and not only so, but many parts, as far as we know, are not susceptible of it at all. For we have not yet had every part of the body affected; we have not seen the brain affected, the heart, stomach, liver, kidneys, nor other viscera, although such cases are described in authors.”^b

I now proceed to detail, *seriatim* (by dates), the opinions of British surgeons, from their writings, who dissented from those authorities:—

^a Sir Astley Cooper's *Principles and Practice of Surgery*. By Alexander Lee, A.M., M.D., vol. iii., p. 140, 1843.

^b John Hunter's *Works*, by Palmer, vol. ii., p. 396, 1835.

Mr. Benjamin Bell was a cotemporary of John Hunter, and thus expresses himself:—"The diseases induced by the venereal virus, of which I shall give instances, are phthisis, asthma, rheumatism, dropsy, headache, epilepsy, and mania."^a

Dr. M'Dowell, of Dublin, in the *Dublin Hospital Gazette*, April, 1854, has contributed a case of great interest:—"Syphilitic Meningitis; Incomplete Paralysis; Disturbance of Mental Functions; Treatment by Mercury; Recovery. Philip Reilly, aged twenty-two, a sailor, admitted for rheumatic pains. Enquiry proved to be connected with syphilis. *Eight months* previously the patient contracted syphilis; the primary sore healed without treatment, mercurial or otherwise. Three weeks before admission the eruption made its appearance. Ordered R. Misturæ Potassii Iodidi $\bar{z}$ i. ter in die. He improved rapidly for some days. January 10th.—On previous day patient affected with partial loss of power of the lower extremities and of the right upper extremity; during the night had been delirious; pupils dilated; vision impaired; there was more or less general paralysis; the face slightly distorted; the mouth drawn to the left side.

"*Treatment.*—Calomel and James' Powder in small but repeated doses. 13th. Ptyalism established; no distortion of face; speaks more distinctly. 14th. Pupils natural, contract briskly; still walks very unsteady. In February he left the hospital in perfect health.

"*Remarks.*—Though cases, such as the one last described, are not very frequently met with in practice, their nature and true import should be thoroughly understood and investigated, as on a correct interpretation of symptoms the success of treatment mainly depends.

"That cerebral symptoms are rarely of syphilitic origin may be inferred from their not being described in the best monographs on syphilis."^b

"Hunter states the brain is one of the organs exempt from the effects of syphilis. Ricord alludes to epilepsy, but not to any other form of cerebral affection, in connexion with syphilis."

^a Benjamin Bell, *Treatise on the Venereal Disease*, vol ii., p. 460, 1793. Dr. Budd, King's College Hospital, Cases of Apoplexy Consequent on Syphilis—*Medical Gazette*, 1842. Dr. Inman, Liverpool, Cases of Paralysis Dependant on Syphilis—*Medical Gazette*, 1843. Dr. R. B. Todd, King's College Hospital, Clinical Lecture on Syphilitic Meningitis—*Medical Gazette*, January, 1851. Dr. Thomas Reade, Belfast, Notes on Syphilitic Meningitis—*Dublin Medical Journal*, February, 1852.

^b John Hunter, Carmichael, Colles, Ricord.

I have extracted from this very characteristic and interesting case at considerable length, as it contains several important subjects of reflection:—1. How a simple and indefinite ulcer may enter and poison the system; the long interval between the poisonous infection and the constitutional irruption; the impotence of iodide of potassium in profound nervous attacks; the rapid restoration under mercurial action. 2. The expressed opinion on the rare occurrence of cerebral complications. There can be no doubt the cases must have been, at all periods, in existence, but overlooked and discredited, or believed to be independent intercurrent disease, but entirely distinct from syphilis, when that was plainly manifest; the character of the infecting ulcer is still unknown—the complications of constitutional nervous disease only newly entered on as a study.

In December, 1855, Dr. M'Dowell, in *Dublin Hospital Gazette*, gives another case of syphilitic meningitis in which he seems to be more satisfied of the existence of a pure meningitis, arising from the fugitive character of the symptoms; the recovery showing the restoration of the functions of all the parts previously impaired. The case.—Pat. Connor, aged twenty-two, April 12th, 1854. Syphilitic paralysis affecting sensitive portion of right fifth nerve and third nerve of the same side:—"I believe we have here a syphilitic affection of the fibrous membranes enveloping these nerves, or of the fibrous periosteum lining the foramen through which they pass. The patient gives the history of syphilis, and other symptoms which are referable to this taint; we find that his mind was affected, that his memory was much impaired, and that there was a listlessness about him, a stupidity that we can now see was not natural to him. Since the patient was a second time under observation, as confirmatory of this opinion, that he suffered severely from nocturnal pains, and that a tender puffy spot, as large as a crown, existed over the internal aspect of the right occipital bone—in fact, syphilitic periostitis. On this supposition he was treated."

That the partial paralysis in this case did not depend on central disease of the brain, or intercranial tumour, is proved by the progress of the case, you observe:—"The lesion of the fifth nerve has disappeared; the levator palpebræ is no longer paralysed; corresponding with the gradual disappearance of the partial paralysis the general health has much improved; his apparent stupidity has disappeared, he is cheerful and intelligent, his memory is no longer defective, and the periosteal pains and swellings have also vanished."

The next notice I find in connexion with this subject, is related

by Mr. B. Wills Richardson, in *Dublin Hospital Gazette*, April 1856. A case of meningitis, osteitis, and periostitis. It was a female, of abandoned life, an inmate of the South Dublin Workhouse. She broke up, cachectic from neglect, and died in hospital. The following were the *post mortem* evidences:—"On removing the scalp, a small carious node was perceived in the left parietal bone, corresponding to the situation in which she complained of tenderness during life; when the calvarium was taken off, the dura mater was seen to be very vascular, and perhaps more coherent to the inside of the skull than natural. On detaching this membrane from the parietal bones, we found the greater part of the latter very vascular, rough, and porous. In the part that corresponds to the node, the bone is thin, blanched, and diaphanous. The whole of the arachnoid membrane was excessively opaque, particularly that portion investing the external surface of the hemisphere of the brain; the pia mater was very much congested, and the brain itself was slightly vascular."

This case, and *post mortem*, afford, I consider, a fair example of the unchecked course of syphilitic external periostitis, with the same affections of the fibrous membrane lining the skull and investing the brain, involving the arachnoid and pia mater, and still further engaging the surface of the brain; a degree further of advance and the depth of cortical substance would exhibit purulent deposit and softening. Such I believe is the ordinary course and progress of these cases unless arrested by specific treatment; at the same time there are surely other forms of inter-cranial syphilitic disease or deposits, on the dura mater, as well as in the body of the cerebral matter.

In order of succession by date the next reference will be found in the *Dublin Quarterly Medical Journal*, for November 1860—Cases of Tertiary Syphilis, by Thomas Reade. Eleventh article.

It contains a series of nine cases, all being in the course of private practice, which has conferred the signal advantage of having a full knowledge and observation of nearly all till their decease, with the alternation, relapses, and in several of apparent perfect restoration. On the retrospect of these nine cases I entertain a very strong conviction that two of the cases, number one and three, now deceased, lost their lives by neglect; all the cases of far less vigour of constitution, and of less promise, have weathered the storm after years of renewed attacks, by prompt submission to treatment. The opulent classes are exempt from the harassing occupations, privations, and the depressing agencies which invade the usual

denizens of hospitals, causes which induce an associate cachexy; and recovery is obstructed by the tardy and involuntary resort to hospital for aid.

The latest contribution in Dublin has been from Dr. Duncan. *Cases of Syphilitic Insanity and Epilepsy*.—*Dublin Quarterly Journal of Medicine*, February, 1863.

I shall now seek out the evidences by which we may determine in what degree, and at what time, the medical faculty of London have participated in this new and important inquiry.

The first publication that I find in the London periodic medical literature is in the *Medical Times and Gazette* for June, 1861—*Reports of Hospital Practice*. By Jonathan Hutchison and J. Hughlings Jackson, M.D. *Syphilitic Affections of the Nervous System*.

“*Cases of Epilepsy Associated with Syphilis*.—The following cases of epilepsy, in each of which there is a clear history of syphilis, will no doubt be interesting to our readers. Although this subject has received much consideration from several English observers, amongst whom we may mention Dr. Graves, Dr. Todd, Dr. Reade of Belfast, and Dr. Inman; yet the connexion between the two affections is not yet so widely recognised as is desirable. Case I.—Syphilitic caries of left parietal bone; convulsive attacks chiefly of the right side, unattended with loss of consciousness, but followed by hemiplegia of the right side; relief by trephining; death; autopsy. The case was a patient of Mr. Bryant's, in Guy's Hospital. Syphilitic deposits were found in the testes, liver, and spleen. Case II. is from Dr. Todd, and Case III. from Dr. Reade, Belfast. Case IV.—Under care of Mr. Hulke, November, 1858. Node on the margin of the orbit, causing diplopia, displacing the eye-ball; cure by the iodide of potassium; afterwards again treated for epileptiform convulsion; persistent fixed pain over parietal bone; recovery under iodide of potassium; remains well.—February 1861.

The cases recorded in the *Medical Times and Gazette*, by Mr. Hutchison and Dr. Jackson are very numerous—supplied from many sources; extracted from publications and reported by many physicians—several London hospital surgeons, so that there is now no lack of labourers. Several of the cases are of great interest, independent of the recognition of the nervous syphilitic disease in the individual of the primary contagion, and showing its inroads upon the eye and ear—all the nerves connected with sensation, as well as

motion—in fact every cerebral nerve. Mr. Hutchison has traced to hereditary syphilis certain characteristic marks upon the teeth, the cornea, and iris; and also the sequence of epilepsy, paralysis, and idiocy, to the inherited poison transmitted at birth.

It would be now useless to follow up in detail cases so numerous, but their number now show how strong and secure a hold has been made on the mass of the physicians and surgeons of London. None seem to uphold the opinion of Hunter and Sir Astley Cooper; it can only excite our wonder how they prevailed, blindfolding men who prided themselves on their clear and independent powers of observation, and whose abilities, as exhibited by their writings, show at the same time, how just was that high reputation they had attained in their generation; and that the highest faculties are still unequal, subject to error, prejudice, and unconscious delusion.

Doctor Brown-Sequard, in one of his lectures on diseases of the nervous system, in addressing his class in reference to paralysis of any of the cerebral nerves, distinctly states, that if the patient had only had a primary ulcer, that testimony would be sufficient to satisfy him, and decide on treating the case as syphilitic. I have in the course of practice, seen cases, and treated them, that would scarcely sanction so sweeping and wide a proposition. We must always bear in mind, that the syphilitic patient has no immunity from intercurrent disease, which is due to other and different causes. We may meet with cases of Sir C. Bell's paralysis of the portio dura, in a man who has had syphilis; yet it may be unnecessary to give specific treatment; tumours within the skull may not be syphilitic. It is not uncommon to employ mercury in those cases, but its use is purely empirical, and reflects no credit on diagnosis.

The task which I have imposed on myself would be incomplete and imperfectly executed did I not apply the same tests by examination of the growth, progress, and present state of knowledge, as shown by publications in the capital of France, on the same interesting subject—the nervous diseases excited in the human frame by the syphilitic poison.

In order to accomplish this object I am necessarily guided to the lectures of M. Ricord, till lately surgeon to the Hôpital du Midi, who, for many years, has attained great celebrity from his experimental investigations into the primary symptoms of syphilis, their nature, and properties, as affecting the human system.

These labours attracted to the Hôpital du Midi a large class of pupils, to many of whom this eminent surgeon imparted his own

ardour and scientific spirit of inquiry. M. Zambaco, one of his pupils, an *interne* of the Hôpital du Midi, has obtained the distinction of Civrieux Prize of the Imperial Academy of Medicine of Paris, for his essay—*Des Affections Nerveuses Syphilitiques*—published in Paris, 1862.

The work is very elaborate and comprehensive, containing a copious reference to many ancient and modern writers on the subject, with numerous cases illustrative of the various forms of the disease, and highly philosophic reflections appended to each case, which renders the whole work an instructive study for all who hereafter may seek a comprehensive knowledge of the subject.

As the majority of the cases were treated in the Hôpital du Midi, under the charge of M. Ricord, the book may be regarded as the embodiment of the doctrines and experience of M. Ricord up to a very recent period; therefore, I may assume, in the work of M. Zambaco I am at the same time eliciting the opinion, on each topic, of M. Ricord himself.

Although cases had been reported by different physicians in France, before the labours of M. Ricord had been published, showing that nervous syphilitic diseases had not passed wholly unobserved, yet the mind of the profession appears not to have distinctly accepted such diseases as recognisable and having a distinct and separate entity, till M. Ricord's own mind slowly opened to its admission. In England, until after the writing of Dr. Todd, it had not assumed a substantial acknowledgment; and, I think, there is strong reason to infer the ignorance of Dr. Todd that any such opinion had prevailed, with a known authority in France; otherwise, I am satisfied Dr. Todd would, in his clinical lectures, have noticed a confirmation of a diagnosis of disease then so novel, yet so important.

I now transcribe from the lectures of M. Ricord, published in the *Lancet*, January, 1848, on the Action of the Osseous Affection (tertiary syphilis) on the Neighbouring Parts:—

“When the tumour is situated at the base of the cranium there is paralysis of the fifth pair; but the motor-oculi may also receive compression; and when this happens all the recti muscles, except the external, are paralysed.”

He then goes on to notice the effects of similar pressure on the seventh and eighth nerves. To the following passage of his

lectures I specially ask attention:—"Another consequence of this species of compression is *epilepsy*; but this otherwise formidable disease is, in such cases, easily got rid of. The fits commonly seize the patient when the osseous growth producing the compression gets more considerable and irritating.

"I must not omit to mention paraplegia, as a casual effect of tertiary syphilis in the bones. The nervous symptoms are, then, the result of an osseous lesion; which latter begins by nocturnal pains, and develops very slowly. Paraplegia may also be produced by a cutaneous elastic tumour."

With these cursory and passing remarks on epilepsy and paralysis he closes his lectures on these momentous derangements in connexion with tertiary syphilis—constituting presumptive evidence that, at the time of his delivery of this course of lectures, their full gravity and importance had, as yet, not impressed him with that force and significance that we find he subsequently became actuated by, as is evinced by the deep and careful study and attention shown in the elaborate care that he gave to the numerous cases he assembled and treated in the Hôpital du Midi—the cases which mainly supplied M. Zambaco with the materials on which he has based his excellent Prize essay. The entire of the reasonings and proofs of his positions are sustained by reference to ninety-one cases, collected by M. Zambaco from the Paris hospitals and Maisons de Sante almost entirely, but pre-eminently the Hôpital du Midi.

I conclude from the passing and cursory manner in which M. Ricord glances at epilepsy and paralysis, that he had not then examined the subject with the care he subsequently bestowed upon it.

I have analysed the dates of the treatment of the ninety-one cases,^a and I find that seventy-seven of the whole number had undergone treatment since 1852, inclusive; thirty-four of these in 1858 (nearly all in the Hôpital du Midi); of the fourteen remaining four have no date; one was 1825; one 1845; the nine remaining scattered through Parisian and other French hospitals.

The conclusion I come to is this, that the subject of nervous syphilitic diseases was not taken up, as a stubborn reality, either in

^a I have uniformly adopted the latest date of dismission or the decease when ascertainable; the reason is obvious—the history of cases often embrace many years.

England or France, till after the notice it acquired in 1851 and 1852.

I can confidently appeal to a critical examination of the cases, as published by M. Zambaco, that all my comments are in no degree overdrawn, and are adduced with no other purpose except that of an historic record, connected with an advancement in our real knowledge of a most serious malady still involved in great perplexity and doubt, after 200 years of inquiry and observation; to offer anything except respect to the high talent, rare ability, and perseverance which M. Ricord has used in his long study of an intricate disease; and to M. Zambaco, my deference and admiration of the manner in which he has executed his work, already honoured by the Imperial Academy of Medicine with the Civrieux Prize.

M. Zambaco's comprehensive work, on syphilitic nervous affections, includes very nearly the entire roll of our nosological catalogue. His cases are ranged under the different heads of morbid action into which he has divided his essay.

He first describes a form of syphilitic disease, "*Nervopathic Diathesique*." 2nd. "*Des Neuralgies Syphilitiques*." 3rd. "*Des Troubles de la Mobilite par Diathese Syphilitique*"—in fact, Paralysis of Motion. 5th. "*De quelques Troubles de la Sensibilité et de la Mobilite, bornes a une seul Membre et Consecutifs a la Compression des troncs nerveux, par des Tumeurs Syphilitiques*." 6th. "*Des Convulsions Syphilitiques*." 7th. "*D'une forme speciale de Paralyse Generale Syphilitique non decrite et ressemblant parfois a la Paralyse Generale des aliens*," 8th. "*Des Troubles de la Sensibilité Generale*." 9th. "*De l'Amaurose et de l'Amblyopie*." 10th. "*Des Odorats Occasionnes de la Syphilis*." 11th. "*Des Troubles du Gout*." 12th. "*Des Paralysies sine Materiâ*." 13th. "*Des Fievres Intermittens Syphilitiques*." 14th. "*De la Choree Syphilitique*." 15th. "*De l'Hysterie Syphilitique*." 16th. "*De Epilepsie Syphilitique*." 17th. "*Des Troubles Intellectuels que la Syphilis peut producer*." 18th. "*De l'Asthme Syphilitique*."

I thus relate this long roll of syphilitic nervous affections in order that they may receive the attentive consideration that the high position and repute of the narrators of those cases entitle them to. Experienced and skilful observers, with abundant opportunity of seeing and contrasting diseases, are alone capable of describing the many diagnoses involved in the matter discussed in the course of this work.

On such sections as I have been conversant with I have already

published, as on syphilitic paralysis, paraplegia, epilepsy, amaurosis, neuralgia, and syphilitic quotidian. In my second contribution on tertiary syphilis, the ninth case, the very first which directed me to the untaught and rare effects of constitutional syphilis, it was, as in M. Zambaco's essay, a case of quotidian syphilitic intermittent. I am now, for the first time, supported in my strange and fortunate diagnosis by that section of the essay on syphilitic intermittent fever. The diagnosis was made in 1838; the patient was on the very verge of the grave, when the decided diagnosis, with the immediate use of mercury by inunction, proved the most potent restorative, as well as the swiftest I ever witnessed in the range of our pharmacopeia. The gentleman is now in perfect health, and holds all but the highest military title.

A careful perusal of the cases reported as treated by M. Ricord, at the Hôpital du Midi, in tertiary forms of syphilis, will not show the avoidance and repugnance to the use of mercury in that stage of the disease usually supposed, and that perfect confidence in the unassisted specific power of the iodide of potassium. It will be found that what he calls the *mixed* treatment is that in most cases relied on.

Besides an endeavour to show the mode in which syphilis affected the nervous system in the later periods of constitutional contamination, I wished equally to prove that even when the bones and their coverings were involved, yet, mercury not only could be employed with safety, but even became sometimes the sole reliance for the rescue of life from impending death. The practice of this great master of his school in Paris confirms, and I think, decides a momentous question. Iodide of potassium is an acquisition of immense value in aid of the treatment of long protracted (I speak of a disease prolonged through years) cases, but it is not sufficient, and cannot free the system of the poison—it cannot supply the place of mercury.

As M. Zambaco has, in the course of his work on syphilitic nervous affections, several times referred to the cases published in this Journal in 1852; and, as I believe, he has tried the cases by a law of criticism over-stringent, and not carried through in the same rigid measure as regards himself, before I make comment on his comments I feel it is but justice to translate the passages from the book.—*Anatomie Pathologique.*

“Several physicians believe that they are authorised sometimes to

suspect a syphilitic meningitis, but we know not on what this diagnosis is based, to which no autopsy has given its sanction. It is thus Mr. Reade reports, in a special article, several cases which he designates syphilitic meningitis. The patients whom he cites were evidently under an outburst of the diathesis—were affected by divers cerebral accidents, which a specific treatment caused to disappear. There occurred epilepsy, paralysis, or paraplegia. The pathological anatomy has in no case been described by this physician. We contest the right that he assumes, to give the title of syphilitic meningitis to these affections.”^a—Page 52.

The second notice and comment is as follows:—From the context I think it will be perceived that the name of Dr. Todd, with which the paragraph begins, is a mistake, as the comment refers to an extract from the same *Dublin Quarterly Journal*. It is this:—“Paralysie du Mouvement.”—Zambaco, page 184.

“Todd has cited several cases of syphilitic cerebral disease, but without an autopsy he is not even justified in using the title “meningitis” which he confers on his cases. These cases induce an exceeding desire that their author had given us a little more of detail. The following is a short extract from one of his cases, which is related as No 2. Another will be found in our chapter on mental alienation.”

Then follows his translation of Case 2, from this Journal, February, 1852:—

“Syphilitic meningitis; mental incapacity; incoherence of ideas; propensity to suicide; paralysis.—A gentleman, twenty-six years of age, was attacked with hemiplegia; his want of intelligence did not permit him to give an account of his state. This patient had before had a deep syphilitic ulcer of the throat. Treatment by iodide of potassium restored him. But he was struck anew with paralysis and a double syphilitic iritis. A mercurial treatment made all these disorders, physical and intellectual, rapidly to disappear. According to our author a tumour of the dura mater was the cause of this cerebral irritation.”^b

^a Dublin Quarterly Journal of Medicine, February, 1852.

^b The Dublin Quarterly Journal of Medicine, February, 1852. Vol. xiii., by Thomas Reade.

In confirmation of the correctness of my assumption that Dr. Todd's name was introduced by a mistake, in the next page, 186, he refers to his Clinical Lecture, *Medical Gazette*, Jan., 1851. It refers to the *post mortem* examination of one of Dr. Todd's cases, exhibiting ramollissement of the cerebral matter, and of course impugning the nosological designation "meningitis." He refers to Dr. Inman's cases, *Medical Gazette*, July, 1843, and likewise impugns them, winding up with this conclusion:—

"Thomas Reade has published several cases of cerebral diseases, which appear to have been determined by syphilis. But we find nowhere a justification for the appellation of syphilitic meningitis which he has conferred upon them, since he has not made a single autopsy. They ought, consequently, to remain in the domain of facts, provoked by syphilis, without affecting to fix the precise alteration or diathetic lesion to which they appertain. However, we find a case^a in the article cited, most interesting, entitled 'Syphilitic meningitis; epileptic attack; intermittent cranial neuralgia; intellectual derangement; paralysis of sphincters.'

"We propose to ourselves to transcribe this at the end of the chapter on mental alienation, because the disorders of the mental faculties are the most important in this malady above any other symptom.

"The existence of meningitis as an isolated form of affection has never been demonstrated, and the English authors who thus speak have never shown the proofs by an autopsy."

M. Zambaco takes exception to the nosological designation "syphilitic meningitis," as not founded, and proved by a necroscopic examination. In an exact science no doubt his rule would be valid, but in pathology it can never be doubted that in many diseases, external as well as internal, resolution takes place and, after recovery, leaves no trace whatever that there had been pre-existing disease. For example, some phlegmons (not terminating in abscess), erysipelas in external parts, also gout and rheumatism. Bronchitis and pneumonia may be adduced as internal diseases which rarely leave any tangible evidence of their existence. Such, I believe, to be the phenomena of syphilitic meningitis; and while it still

^a Case No. III.—The Dublin Quarterly Journal of Medicine for 1852—by Thomas Reade.

remains merely a tumefaction of the dura mater—a diffused internal node pressing on the arachnoid, pia mater, and surface of the cerebrum, it is still perfectly curable—is a true meningitis, and only by want of specific treatment proceeds to destructive disease, involving the cerebral matter. Consequently there could, in ordinary circumstances, be no *post mortem* in syphilitic meningitis, death being the attendant only on long neglect, or erroneous diagnosis and treatment. The three cases, published by me in 1852, I have strong reason to believe, were truly typified by the denomination of syphilitic meningitis, from the perfect restoration that all three had attained prior to the publication. But it will be found by those who refer to my second series—*Dublin Quarterly Journal*, November, 1860, both No. I. and III., had succumbed to the fatal diathesis; and, I believe, with destructive disease of cerebral matter in both. No *post mortem* was permitted in either. Case No. II. informs me that he has enjoyed perfect health since he left my care. I may add, it is no irrational inference, that as we see nodes on the tibia and other bones—as the parietal, frontal, and occipital, disperse and disappear before our eyes under specific treatment, so it may be conceived, without any strain on the imagination, that the same process may be perfected within the cranium as that exhibited on the outward aspect of the body.

M. Zambaco, in his preface, admits, as he expresses it, “*de la maniere la plus positive*,” that functional perversion may exist without any corresponding organic lesion; and his cases of paralysees syphilitiques, “*sine materiâ*,” attest the fact by their autopsy. It would be wearisome to pursue this subject, and would involve more space than would be reasonable and fair in a periodical journal.

But lest I should be misunderstood by a protest against any portion of the author's criticism, it is by no means inconsistent with my appreciation of a most comprehensive and valuable work, which will, I hope, early appear in an English translation.

The following may be offered as the inference and conclusion from the substance and import of this retrospect:—

1st. That the opinions of John Hunter constitute an epoch in the history of syphilis, guiding a great majority of practitioners in surgery for many years.

2nd. That these doctrines ignored the complication of the brain and nervous system.

3rd. That the treatment of syphilitic primary ulcers without

mercury, and Carmichael's promulgation of plurality of poisons, formed a second epoch.

4th. That the introduction of hydriodate of potass as a specific and substitute for mercury, in every stage of syphilis, quickly followed on the new doctrine.

5th. That the next remarkable event was M. Ricord's experiments by syphilitic inoculation.

6th. That although practitioners, both in England and France, were cognizant of the complication of the cerebral and nervous system in tertiary syphilis, yet no decisive impression, on the minds of the profession generally, was shown until after the publications on the subject in 1851 and 1852.

7th. That M. Ricord, like Carmichael and the non-mercurialists, seem to have been so intent on their investigations into the primary and secondary forms of the disease, as to have nearly or entirely overlooked the important and formidable complications of the later periods.

10th. That M. Ricord, by publication in 1848, referred to certain forms of paralysis, epilepsy and paraplegia, connected with tertiary syphilis.

11th. That the division of the practice of medicine into surgery and medicine mainly retarded the progress and advancement of true knowledge of the nervous diseases elicited by constitutional syphilis. Nervous maladies occurring in those suffering manifestly from syphilis were regarded as intercurrent or separate diseases, and transferred to the physician for treatment.

12th. That the proper and true education of the surgeon being now understood to include the entire curriculum of the physician, a measure of competence is attained to investigate the phenomena, not in parts but as a whole, and surgeons are thus fitted to apply all the sources of science to enhance the sagacity acquired by dealing with understood and tangible disease.

13th. That the experience collected by so many observers, and now widely published, has transferred the complication of the brain and nervous system in tertiary syphilis from the mysteries to the facts of medical science.

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

1. *A Treatise on the Continued Fevers of Great Britain.* By CHARLES MURCHISON, M.D., Fellow Royal College of Physicians, Senior Physician to the London Fever Hospital.
2. *Lectures on the Distinctive Characters, Pathology, and Treatment of Continued Fevers, delivered at the Royal College of Physicians, London.* By ALEXANDER TWEEDIE, M.D., F.R.S., &c.

(Continued from No. lxxi., p. 200.)

RELAPSING OR FAMINE FEVER.

ALBEIT Hippocrates described a disease which appears to answer to our relapsing fever, the earliest account upon which reliance can be placed, according to our learned author is that which is found in *Rutty's Chronological History of the Diseases of Dublin*. He describes a fever, which prevailed in Dublin, in 1739, attended with intense pain in the head, terminating in four, five, or six days, sometimes in nine, and commonly in a critical sweat; the patients were subject to relapse even to a third or fourth time, and it was far from mortal. This fever was altogether without the malignity of typhus; and, as proof, he says:—"I was assured of 70 of the poorer sort at the same time in this fever, abandoned to the use of whey and God's good providence, who all recovered"

Barker and Cheyne, writing of the epidemic of 1817-19, observe:—"Certain it is that the fever in 1801 very generally terminated on the fifth or seventh day, by perspiration, and that the disease was then very liable to recur, and that the poor were the chief sufferers by it."

Dr. O'Brien, describing the epidemic of 1826, in Dublin, tells us:—"There were two fevers—the ordinary typhus, or fever of the old constitution, which was very fatal; and a fever of the new constitution, lasting only a few days, and seldom fatal, but frequently relapsing."

It appears the epidemic in Upper Silesia ("die hungerpest") which followed the famine years of 1846 and 1847, was the same disease (relapsing fever) as our own; the investigations of Virchow and others, in point of fact, leave no doubt on the subject. A paragraph is quoted by Dr. Murchison, from a review of this Silesian

epidemic, which we remember having read before. We refer to it now for the purpose of protesting against the conclusions drawn by the reviewer, and endorsed by our author, as to the close analogy between the inhabitants of these Prussian provinces and the Irish. He tells us:—"The Silesians have preserved their language and their religion, though severed from their nation for 700 years. The schoolmasters sent amongst them have learned Polish, but have not taught German; the Protestant teachers have only excited among them a more fanatic zeal for their Catholic priests. Amidst the clash and tumult of modern progress they remain silent and unmoved in their antique isolation." After informing us that, like the Irish, they live on potatoes, with the addition of sauerkraut, and that their dwellings are the prototypes of the Irish cabins, we learn that the parallel does not end here. "The relations between landlord and tenant appear to be on as false a footing as those which exist in Ireland, only that here a still more oppressive state of servitude is to be found. The Silesians, like the Irish, are excessively intemperate."

It may be very presumptuous, but we flatter ourselves we, who live in Ireland, know a little more of Ireland than the English reviewer; and we are utterly unable to see the analogy between the Poles who have retained their language and the Irish who have not retained theirs; nor can we see the slightest resemblance between the landlord and tenant relations. The Irish landlord is *not* an oppressor, and the tenants are *not* in a state of servitude. The Irish are *not* "excessively intemperate." So far from "remaining unmoved in their antique isolation," like the Poles of Silesia, the Irish are making rapid strides in material improvement.

But to return from this digression to the more agreeable and congenial task of giving an analysis of Dr. Murchison's account of relapsing fever.

ETIOLOGY OF RELAPSING FEVER.

The mean age (according to the tables of the London Fever Hospital) is—for males, 22.98; females, 26.01. The youngest case was a female, aged two, and the oldest a man, aged 74; the proportion of the young to the aged is greater than in typhus; relapsing fever being communicable, over-crowding favours its propagation.

The proofs of the communicability of relapsing fever are similar to those which are adduced for typhus. Dr. Craigie, of Edinburgh,

and Virchow are opponents of the generally received opinion. Unlike typhus, one attack of the disease does not exercise a protecting influence. In all epidemics it has been observed that persons have been attacked more than once. Dr. Murchison thinks that, as epidemics of typhus and relapsing fever coëxist, it may be assumed that the conditions under which both diseases originate are similar; and these conditions are destitution and over-crowding.

PATHOLOGY OF RELAPSING FEVER.

It was not until 1843 that the distinction between relapsing fever and typhus was established; and to Dr. Henderson, of Edinburgh, belongs the credit. Subsequent observers, however, of whose accuracy there can be no question, have not confirmed Dr. Henderson's statement that the two fevers are never found in the same house or family.

Dr. Alison saw two cases of typhus, "with the characteristic eruption, brought from the same room in which a succession of relapsing cases had occurred at the same time." Dr. Henry Kennedy has seen cases of relapsing fever and typhus, not merely in the same room, but even in the same bed.

In many epidemics, when both fevers prevail, we may find—first, relapsing fever; then relapsing fever with typhus; and, finally, typhus alone. Dr. Murchison does not think that this circumstance "justifies the conclusion that the two fevers are identical." He says:—"The statement remains uncontroverted that in all cases where fever can be proved to have been imported into a locality by a single case, typhus has produced typhus, and relapsing fever relapsing fever."

A remarkable difference between the two fevers exists in the power which typhus possesses of conferring immunity from second attacks—a power which does not belong to relapsing fever. A peculiar odour has been observed to be exhaled from the bodies of persons labouring under relapsing fever. Dr. Kelly, of Mullingar, compares it to "burning straw with a musty odour."

SYMPTOMS OF RELAPSING FEVER.

We have, in almost every case (being, unfortunately, endowed with a very acute sense of smell), noticed a peculiar odour, and chiefly during the sweating period. The suddenness of the seizure is remarkable in relapsing fever, no symptoms premonitory of the disease in many cases occurring. Chilliness, rigors, frontal headache,

lumbar pains; cold stage, often followed by sweating on second or third day, without any intermediate hot stage, and without relief to the headache. After the initiatory cold stage, or after the sweating, if it takes place, skin hot and dry (102° to 107° Fahr.); pulse varies from 100 to 140, or even upwards. In the greater number of the cases we have observed the pulse did not rise above 130; the tongue, in some cases, white and loaded, or dry; but often it presents a dry streak down the centre. Thirst, anorexia, constipation, nausea, vomiting, urine high coloured or containing bile; sleeplessness; mind generally unclouded, but occasionally delirium on the fifth or sixth day. The sudden cessation of the febrile symptoms occurs, in some instances, as early as the third day, and in others it is postponed to the 10th. In the epidemic of 1847-48 we found that the fever generally ended on the seventh or ninth day. The sudden fall in the pulse is noteworthy—often from 130 to 70; but we have known it, in the interval between the primary fever and the relapse, come down to 60, and in some cases to 45. Dr. Murchison names the 14th day from the commencement of the fever, or the seventh from the crisis, as the usual time for the relapse. The fever generally returns with all the symptoms which were present in the first attack, in some cases in an aggravated degree. The duration varies from one to four days. Our author considers three days the ordinary duration, but in our cases it was four days. Like the termination of the first, the second fever ends in sweating, which we have known to last from one to five or six hours, the patient being literally drenched. A second relapse has occurred, and even a third or fourth; but there may be no relapse. When relapsing fever and typhus are contrasted, the difference as to mortality is most striking. Dr. Murchison says that in relapsing fever it rarely exceeds one in 25 or one in 50; and we may, from our experience of the epidemic of 1847-48, place it still lower. The greater number of our cases had no eruption, but many presented spots like flea-bites; and, indeed, Alison thought that the spots sometimes “originated in flea-bites and extended by little ecchymoses;” but, as our author observes, they cannot always be thus accounted for. The spots differ from the petechiæ of typhus in not being developed in the centre of exanthematous patches. There is no specific day for their appearance; they are more frequently met in the primary fever than in the relapse, and in jaundiced cases they are rarely absent. We have seen some spots deep purple, or nearly black, being doubtless connected with a diseased state of the blood.

The eruption which prevailed generally during the epidemic was most frequent amongst the destitute classes, persons in better circumstances passing through the fever without spots.

We have observed the spots to disappear, suddenly, at the termination of the first period of the fever. The presence of sudamina in this fever has been particularly referred to by Dr. Ormerod in the epidemic of 1847, in London; and we noticed the eruption at the same time here. It was confined to the front of the body in our cases.

Every physician who has written on epidemics of relapsing fever mentions the frequency of jaundice; but much difference of opinion prevails regarding the importance to be attached to its presence—some looking on it as “a very trifling occurrence,” and others again as a most formidable symptom. The fatal cases which came under our own notice were jaundiced, and death was preceded by coma; but, on the other hand, we have had very many cases of relapsing fever presenting this complication which ran as favourable a course as if it did not exist. The enlargement of the spleen is one of the most remarkable symptoms in this disease.

DIAGNOSIS OF RELAPSING FEVER.

Dr. Murchison's observations on the diagnosis of relapsing fever are very valuable. The diseases with which it may be confounded are—typhus, enteric fever, febricula, remittent fever, yellow fever, incipient small-pox, bilious headache, and cerebral diseases. From typhus it is distinguished by the suddenness and severity of the primary rigors—the absence of the heaviness or stupidity of countenance—the greater heat of skin, and the absence of the typhus rash—the frequency of jaundice, of vomiting, and of tenderness and enlargement of the liver and spleen—the presence of epistaxis and other hemorrhages—the rarity of delirium and other cerebral symptoms—the invariable occurrence of abortion in pregnant females—the common occurrence of ophthalmia as a sequela—the subsidence of the pyrexia, on the fifth or seventh day, by a copious critical sweat—the occurrence of relapse—the difference in the rate of mortality.

Relapsing fever, in its severe forms, and when associated with jaundice, may easily be mistaken for true yellow fever. In 1826, Drs. Graves and Stokes reported cases of yellow fever in Dublin; and these, Dr. Murchison says:—“Appear to have been relapsing fever, complicated with jaundice and cerebral symptoms; and the

fact that they differed from true yellow fever was pointed out, at the time, by O'Brien."

"Relapsing fever differs from yellow fever in the following particulars:—Yellow fever exhibits no predilection for the poor and destitute, but attacks all classes alike. Yellow fever attacks the same individual but once. Relapsing fever confers no such immunity from future attacks. Jaundice is an almost constant symptom of yellow fever; it occurs in less than one-fourth of the cases of relapsing fever. Yellow fever is a most mortal disease; relapsing fever is rarely fatal. Death in yellow fever is generally preceded by the 'black vomit,' which, in relapsing fever, is so rare that some of the most experienced observers have doubted its occurrence. The yellow fever of the tropics never follows the peculiar course of relapsing fever."

In looking on relapsing fevers as a disease which rarely proves fatal, it must not be forgotten that certain grave complications, such as profuse hemorrhages, cerebral symptoms following suppression of urine, syncope, peritonitis, dysentery, erysipelas, &c., &c., lead to a fatal termination.

We shall not pause over the treatment of relapsing fever, but merely remind our readers of the fate of "the poorer sort abandoned to whey and God's good providence."

Dr. Murchison tells us that it is important to bear in mind that most cases of relapsing fever recover without treatment of any sort. This is perfectly true; but there are cases which require treatment, and our author gives very judicious advice for our guidance:—The regulation of the bowels; avoiding active purging, in consequence of the risk of dysentery or diarrhea supervening; sponging the surface of the body; supporting the vital powers, remembering the liability to fatal syncope. In the jaundice, nitro-hydrochloric acid, with nitre or turpentine, as recommended by Dr. Corrigan. In the greater number of cases alcoholic stimulants are uncalled for, but in some few they are required, even early in the disease.

TYPHOID, ENTERIC, OR PYTHOGENIC FEVER.

Dr. Murchison proposes to denominate this fever pythogenic fever. We incline to the term enteric as the least objectionable of the numerous designations which it has received, although the name originally given by Bretonneau, dothinerteritis, has lately been revived on high authority.

HISTORY AND PATHOLOGY OF ENTERIC FEVER.

The historical account of this disease is full of interest; but we must pass over the early periods, and come to modern times. In 1727, Strother, in an account of the epidemic typhus of London, speaks of "the Lent fever as a symptomatical fever arising from an ulcer fixed on some of the bowels." In 1746 Sir Richard Manningham described enteric fever under the name of febricula: the symptoms—a red, often dry tongue, abdominal pains, diarrhea, hemorrhages, &c., &c. He recommended cordials, and condemned bleeding. Sir John Pringle distinguished enteric fever from typhus. He called it *miliary fever*; and stated that:—"It was incident to people of all ranks, and living in the best air; whereas the *malignant* fever is scarce to be seen, except among the lowest people, crowded together in close and foul places, such as in military hospitals, jails, and transport ships." Roderer and Wagler gave an account of a fever in Göttingen under the name "*morbus mucosus*."

In Ireland Ruddy alludes to a fever generally occurring in autumn, of three or four weeks duration, or even longer, with diarrhea and hemorrhages. Macbride also (1772) distinguished the *febris nervosa* (a protracted fever, with diarrhea) from the *putrid continued fever*. In 1804 the subject was investigated in France by Prost, who was followed by Broussais, Petit, and Serres; and by Cruveilhier, Andral, &c.

Brettonneau first showed that the solitary and agminated glands of the ilium were the site of the pathological changes in this fever. Louis' great work on typhoid appeared in 1829. In England observations were made on this fever with "follicular ulceration" of the bowels; and Dr. Cheyne describes cases of fever occurring in Dublin under the designation of "epidemic gastric fever." In Germany the two fevers—typhus and enteric fever—were distinguished, the former termed "typhus exanthematicus;" and the latter, "typhus abdominalis," or "nervenfieber" or "schleimfieber."

The researches of Lombard of Geneva, Gerhard and Pennock of Philadelphia, Staberoh of Berlin, Shattuck of Boston, Valleix and Rochoux, are referred to, all tending to the conclusion that typhus and enteric fever are essentially different diseases. The leading distinctions between typhus and typhoid fevers, as regards their origin, proximate causes, course, symptoms, and anatomical lesions, were, says our author, pointed out more accurately by Dr. Stewart of the Middlesex Hospital than by any of those who

preceded him; he considered the characters of the two diseases "so marked as to defy misconception." Louis, in the second edition of his work on typhoid fever, declares that:—"Le *typhus fever* des Anglais est nécessairement une maladie très différente de celle qui nous occupe." The doctrine of non-identity had, nevertheless, many and able opponents both on the Continent and in Great Britain. Gaultier de Claubry, in an essay read before the Academie of Paris, maintained the identity of the two fevers. In 1849 and 1851 Dr. Jenner published his observations on the two fevers; and sought to establish the dependence of the two fevers on distinct causes. He contended that they were as distinct as any of the exanthemata. Many physicians of the highest character who formerly held that the two fevers were identical, have given in their adhesion to the doctrine of non-identity; for example, Drs. Watson, and Tweedie; and Forgel, who, having been brought face to face with veritable typhus, announced his change of opinion, in his report to the Academie of an epidemic of typhus which prevailed in the gaol of Strasbourg; although in a former publication on "enterite folliculeuse," he stated his belief in the identity of the two fevers. He says they differ—"Non seulement par les caractères anatomiques, mais encore par les causes, les symptômes, la marche la durée et le traitement." The French physicians who encountered typhus in the Crimea generally adopted the non-identity side. Jacquot writes:—"En un mot, chaque espèce, typhus et fièvre typhoïde, présente tous les degrés d'intensité, sans cesser de garder son individualité, ses caractères sa marche, ses symptômes, ses lésions."

Dr. Murchison observes:—

"The specific distinctness of the two diseases is now, in fact, generally recognised in every part of the world. It is true that some excellent observers still adhere to the doctrine of identity; and maintain that it is impossible to distinguish the symptoms or lesions of the two fevers; and that, indeed, the dothenenteritis of Bretonneau is merely an accidental complication of typhus. Looking at the past history of medicine, it would be surprising if it were otherwise."

Among the excellent observers, our author, we believe, refers to Drs. Christison and Bennett of Edinburgh, and Drs. Stokes and H. Kennedy of Dublin, as still holding by the identity of the two fevers.

GEOGRAPHICAL DISTRIBUTION OF ENTERIC FEVER.

Marked difference exists between the two fevers, when we look to their geographical distribution. We have seen that typhus is limited; typhoid, on the contrary, has been found in all parts of the world; it is epidemic in Great Britain and Ireland, and on the Continent of Europe; it is met with in the torrid and the frigid zones—in India, in Sumatra, and Java, in Syria, in Algeria, on the west coast of Africa, Brazil, and Peru, in New Holland, and Van Dieman's Land, &c., &c.

PREDISPOSING CAUSES.

Age.—Enteric fever is a disease of early life. Of 1,773 cases admitted into the London Fever Hospital in 10 years, the mean age was 21.25. The earliest age was 4 years; and $1\frac{1}{2}$ per cent. exceeded 50. Of 7,348 cases collected from different parts of France, 2,282 or 31 per cent. had not arrived at 15 years of age. The disease may occur at any period of life; Abercrombie, Rilliet, Heiming, Wunderlich, and Charellay, record cases occurring in the first year of life; and there seems reason to believe that it may occur in utero, at least ulceration of Peyer's patches similar to that which is observed in enteric fever, has been observed by Manzini, in a child, which died soon after birth.

ETIOLOGY OF ENTERIC FEVER.

Dr Murchison observes, as to the mode of propagation, that it forms no part of the great epidemics which have devastated Britain; but although essentially an endemic disease, it may become epidemic; and owing to the circumscribed character of the epidemics, it has received names from the locality, as Croydon fever, Westminster fever, Cowbridge fever, and Windsor fever.

Enteric fever, unlike typhus, is much influenced by seasons; it is most frequent in Autumn, so much is this the case in America that it is called "fall fever"—*anglice*, Autumnal fever. In many places it has been noted that enteric fever was prevalent after seasons remarkable for high temperature and dryness.

There is no evidence, according to our author, that *intemperance* predisposes to enteric fever; and, indeed, in France, the same opinion is held; so he might say of Germany; but when the drunkard is attacked his prospects are by no means so good as those of the temperate. Wunderlich thus puts the case:—"Die Säuffer

sind dem enterischen typhus wenig unterworfen, wen sie aber befallen werden, pflegt de erkrankung einen schweren verlauf zu nehmen."

Previous Diseases.—On this subject Dr. Murchison refers to the strange notions of some recent French writers, on the relation of enteric fever to variola, which, in fact, assume that vaccination has been of no use—that it has merely produced a "displacement of mortality," for that enteric fever is variola of the intestines. To vaccinate the mucous membrane with the view of preventing the disease, has been gravely proposed; but, after careful investigation by the Academy of Medicine in Paris, the theories have been found to be utterly without foundation—it were waste of time to dwell upon them.

A sort of antagonism is said to exist between enteric fever and certain diseases. Rokitanski, Forget, and others, have looked upon tuberculosis as to some extent protective, and the same has been said of puerperal diseases and cholera—of cardiac disease, cancer, &c., &c. The experience of Dr. Murchison is opposed to the opinion of Löschner and Friedleben, that enteric fever and scarlatina have an inverse ratio as regards epidemic prevalence, and he refers to the returns of the Registrar-General, which show that the mortality is greatest from scarlatina at the end of autumn, the period when enteric fever is most prevalent. He is doubtful if previous disease predisposes to enteric fever, and the same opinion is expressed as to mental emotions. Our experience is different. We have seen enteric fever so often follow the exanthems that we recognize something akin to a predisposition in persons who have recently passed through these diseases. We have lately had a patient, who, while still in hospital, and convalescent from scarlatina, was attacked with enteric fever. It has been held by many observers that powerful emotions and sustained mental labour predispose to enteric fever. Sexual excesses and Onanism also. We may again quote the Leipsic Professor:—"Längst ist es anerkannt, das Individuen mit exaltirter psychischer stimmung ganz besonders dem typhus und seinen heftigeren Formen verfallen. Dessgleichen hat man gefunden, das Bräute vorzugsweise häufig ergriffen werden, und auch in den ersten wochen der Ehe entwickelt sich der typhus oft und mit hervorstechender Heftigkeit. Ueberhaupt scheinen geschlechtliche ueberanstrengungen und Excesse der Entstehung sehr förderlich zu sein, nicht bloss bei Männern

sondren auch bei Weibern, und nicht bloss der coitus, sondern auch die onanie. Man sieht häufig männer nach mehrtägigen Orgien in den enterischen Typhus verfallen, häufig ihn bei Dirnen ausbrechen, und bei Onanislen zeigt er sich wenigstens von über wiegender Bösarligkeit."

Over-crowding and deficient ventilation do not appear to have much influence in the production of enteric fever; but Dr. Murchison suggests that deficient ventilation may favour the action of the poison by preventing its diffusion and dilution. Its frequency in country districts and little-crowded localities is matter of common observation. In Paris it has been long since noticed that recent residence predisposed to this disease. This our author has also found to be the case in London. Of the cases admitted into the London Fever Hospital for 14 years, six per cent. had not resided in London three months before their admission into hospital. Dr. Murchison has known several instances of successive visitors to the same house, at intervals of months, or even of years, being seized with enteric fever or diarrhea soon after their arrival, from which the ordinary residents were exempt. These considerations, he says, point to the dependence of pythogenic fever on some local cause to which the system becomes habituated by constant exposure.

Nearly all observers agree that destitution does not predispose to enteric fever. Dr. Murchison is inclined to think that persons in good circumstances are more liable to it than the poor. For confirmation of this opinion he refers to the observations made in France and America, and recently at Windsor and Croydon. The contrast which enteric fever presents to typhus and relapsing fever in this respect he finds borne out by the records of the London Fever Hospital. The evidence on this point he considers overwhelming.

EXCITING CAUSES OF ENTERIC FEVER.

As to these much difference of opinion has prevailed, and still prevails. First, of *contagion*. No one doubts the communicability of typhus, and few of relapsing fever; but not so with enteric fever. Of contagionists and anticontagionists there are a goodly array; and we are willing to join the former. Dr. Murchison having fairly discussed the case, concludes thus:—"In the face of such facts it is impossible to deny that pythogenic fever is communicable by means of some poison emanating from the sick." He does not think, however, that it is contagious in the strict sense of

the term. It is not improbable, he says, that the alvine dejections constitute the chief, if not the whole medium of communication. This has, for a long period, been advocated by Professor von Gietl, of Munich. Even on the possibility of this being well-founded, care should be taken to have the alvine dejections quickly removed. Bretonneau and others believed that the disease may be propagated by fomites.

Spontaneous Generation.—Admitting that enteric fever, under certain circumstances, is communicable, Dr. Murchison believes that it may arise spontaneously. In the year 1858 he presented to the Medico-Chirurgical Society an essay, to which we have before alluded. In this essay he stated that the fever which is due to emanations from sewers is always enteric fever; and that this view explained its occurrence in isolated houses as well as in towns, and why it attacked persons in all conditions in life. In this memoir he adduced a mass of evidence derived from circumscribed epidemics, which arose in connexion with sewer miasms. In some the symptoms were developed so suddenly, and were so severe as to excite suspicion of poison. This was notably the case at the National Hotel, at Washington. Mr. Buchanan, the President elect, and a number of others, were seized with enteric fever. The disease was ascertained, after a rigorous investigation, to be due to sewer gases.

After detailing the history of the “Westminster fever,” the Windsor fever, &c., &c., he says, referring to his essay—“subsequent observations have tended to confirm the opinions then expressed.”

In some localities it seemed that the fever was caused by the drinking of water tainted with sewage. This was the case at Bedford and Clifton.

SYMPTOMS OF ENTERIC FEVER.

After giving a “Clinical description” of enteric fever, Dr. Murchison, as in the case of typhus and relapsing fever, gives an analysis of the principal symptoms:—*The Physiognomy.*—He dwells upon the signs which distinguish the countenance in this disease from typhus: the countenance often little changed—pale, or with a circumscribed blush on one or both cheeks, present in 74 of 100 cases noted. In severe cases, and in the advanced stage, the face may assume—as it does in many diseases in which “typhoid state” is established—an appearance not to be distinguished from that of true typhus. *The Skin.*—The spots in enteric fever, “tâches roses

lenticulaires," are generally slightly elevated. A minute vesicle has been seen in some cases at the apex, and this has been pointed out by Jenner, Peacock, and Gairdner. The spots disappear on pressure, and never at any period become petechiæ. They are few in number, and come out in successive crops, each spot lasting three, four, or five days, and then fading. Of 98 cases observed, with reference to the eruption, by Dr. Murchison, the number of spots, at any one time, never exceeded 20 in 61; in 37 cases it exceeded 20, and in 9 it exceeded 100. More numerous in adults than in children. The situation of the spots generally the front of the chest and abdomen; but they are sometimes seen on the back, legs, and arms, and even on the face, but the latter situation is extremely rare. The date of appearance—between the 7th and 12th day, inclusive: the duration—7 to 21 days. The eruption is not always present. Of 1,413 cases admitted into the London Fever Hospital, they were present in 10 per cent. Unlike typhus, there is no relation between the abundance of the eruption and the severity of the disease. By some the copiousness of the spots has been considered a good sign. This view has been adopted by Louis, Barthez, and Rilliet; and by Dietl, of Cracow. In five out of 45 cases our author has observed a delicate scarlet rash to precede the appearance of the lenticular spots—a circumstance tending to lead to the disease being mistaken for scarlatina, when sore throat coëxists.

Vibices and Petechiæ have been met; but the latter are independent of the lenticular spots, never being developed in their centre. There is a peculiar appearance of the skin often seen in typhoid fever—the "*tâches bluâtres*"—a delicate blue tint, not raised nor influenced by pressure, sometimes in the course of small veins. According to the experience of Trousseau and our author, these blue spots have been found in mild cases. *Sudamina*, and subsequently desquamation of the cuticle, have been noticed, and herpes sometimes on the lips.

The Pulse.—Out of 100 cases, Dr. Murchison found that it exceeded the normal standard in all but one. In 97 cases it exceeded 90; in 85, it exceeded 100; in 70, it exceeded 110; in 32, it exceeded 120; in 25, it exceeded 130; in 10, it was above 140; and in two, above 150. The frequency varies at different times of the day, giving the fever something of a remittent character. The pulse may fall in frequency while the fever continues, as proved by the coming out of fresh crops of spots; or it may keep up in convalescence owing to complications.

The Tongue.—Dr. Murchison has noted unusual redness in 69 out of 100 cases. It may be moist throughout the fever. It is sometimes red and glazed, surface being clean and smooth. There are often transverse fissures; in 35 of 100 cases they were present. The lips are often dry and parched, and they may crack and bleed.

Meteorism is very frequent. In 79 of 100 cases of Dr. Murchison's the abdomen was unusually resonant; in 17 there was great distension. In half of Louis' cases, which ended fatally, there was great distension.

In 31 out of 44 cases our author noted gurgling on pressure of the right iliac region. He found tenderness on pressure in this situation in 71 out of 81 cases. He has also found diarrhea in 93 of 100 cases. In 38 of 100 cases diarrhea was one of the first symptoms. There is no connexion between the intensity of the diarrhea and the extent of the intestinal ulceration. However, the more severe and persistent the diarrhea, the greater the danger in enteric fever. This, which was Louis' experience, is confirmed by all observers. In some the bowels are confined, and urgent diarrhea follows the administration of an "ordinary purgative"—a good reason for never giving an "ordinary purgative" in enteric fever. In seven of our author's 100 cases diarrhea was not present at any stage.

The character of the alvine dejections in enteric fever are peculiar; yellow, ochre-like colour, ammoniacal and offensive in odour; alkaline reaction, specific gravity about 1015; 40 parts in 1,000 of solid matter. Schönlein demonstrated the presence of crystals of triple phosphate, which he believed were peculiar to the evacuations in "abdominal typhus;" but subsequent investigations have proved this to be an error.

The Spleen has frequently been found enlarged, particularly in young persons. Taupin ascertained marked enlargement in 109 of 121 cases of children.

Intestinal Hemorrhage occurred in 14 out of 84 of Dr. Murchison's cases, and in seven out of 21 fatal cases noted by Dr. Jenner. In six out of seven cases which ended fatally under the care of Chomel, five of our author's 14 cases ended fatally; and he says:—"Although I have known patients recover after profuse hemorrhage, I have never observed the slightest benefit from it; on the contrary, I have repeatedly seen patients die unexpectedly by syncope a few hours after its occurrence, who had previously done well." Bretonneau, Chomel, Louis, and Jenner consider hemorrhage a dangerous symptom.

Now for a very different view of the case.

Dr. Graves reports certain cases in which it was thought to be productive of marked benefit. Ragaine (de Mortagne) records 400 cases of which 11 had intestinal hemorrhage, and all of the 11 recovered. Trousseau at one time believed the occurrence of hemorrhage of grave import, but he has altered his opinion. He says:—"Je professe aujourd'hui une doctrine tout à fait opposée, à savoir, que les hemorrhagies intestinales, dans la fièvre typhoïde, loin d'avoir la gravité qu'on leur accorde, constituent le plus souvent un phénomène de favorable augure."

After this unequivocal expression of opinion as to the influence of intestinal hemorrhages, we find him guarding himself against a too favourable conclusion, being drawn from his language—and, in truth, we may add, the only one which it warrants:—"Ces hemorrhagies intestinales sont, dans un trop grand nombre de cas encore, très graves. Par leur excessive abondance, elles peuvent foudroyer les malades," &c., &c.

Dr. Henry Kennedy says most cases recover; and that they are in general benefited by the intestinal hemorrhage. We are inclined to think the different views expressed on this point by such competent observers arise from a want of accuracy in distinguishing between hemorrhages, slight and unimportant in amount, and those which, from their severity, imperil life. We have seen a sufficient number of cases in which hemorrhage in enteric fever, directly or indirectly, led to fatal consequences, to satisfy us that the complication is a most serious one, and greatly adds to the gravity of the disease. We could adduce the history of cases in support of this opinion, which has been long maintained; but space does not admit. The Fourth Volume of *The Dublin Hospital Gazette* contains a highly instructive case illustrating this point, reported by Professor M'Dowell, one of the Physicians of the Hardwicke Fever Hospital. In this case profuse hemorrhage occurred from the bowels on the 16th day. So great was the quantity of blood which came away, that, in addition to a large quantity passed into the bed-pan, it subsequently soaked through the bedding to the floor: here death was *directly the result* of hemorrhage. Trousseau relates a similar case; but one in which death followed more rapidly, one hour only having elapsed from the access of the bleeding until the fatal result.

Dr. Murchison's examinations of the *urine* in enteric fever lead to the following results:—During the first week marked diminution

in quantity; in convalescence the secretion is copious—even 80 to 90 fluid ounces passed in 24 hours; specific gravity at first high—1025 to 1030; late, or in convalescence, it sometimes does not exceed 1005 or 1003. Albumen is less frequently found in the urine in enteric fever than in typhus; and it is later in making its appearance. It is present in about 32·26 per cent. Cases in which albuminuria occurs, are generally severe. The consequences of non-elimination of the urine are the same as in typhus.

It is worthy of notice that, as compared with typhus, a large number of cases of enteric fever are free from delirium in all stages of the disease. Out of 100 cases the author found that 33 remained perfectly clear throughout the attack; three of the 33 patients died. Eight cases in which there was no delirium were fatal. His experience agrees with that of Jenner and others, in assigning the greatest danger to cases in which the delirium is most violent and noisy. Dr. W. T. Gairdner, in his *Clinical Medicine*, makes some remarks on the mental states in enteric fever which are very important and eminently practical. Speaking of a case of enteric fever presenting a group of symptoms which might be mistaken for hysteric coma or tubercular meningitis, he observes:—"In *typhus*, according to my experience, the delirium precedes the coma, and accompanies it until the unconsciousness becomes complete. There is no such thing, I suspect, in typhus, as *coma without delirium*; but in this case we have a kind of half-unconsciousness, although we have not now, and never have had, any delirium at all. Moreover, there is another distinction of this state from the coma of typhus, which I hold to be *absolute* as far as my experience goes. The state of the pupils is quite the opposite of that which is characteristic of the delirium and coma of typhus. The danger of the true febrile coma is, in fact, very much in proportion to the contraction of the pupils; and as for typhomania with dilated pupils (still more with very dilated and nearly insensible pupils, as in this case), I do not think I ever saw it in genuine maculated typhus."

General convulsions occurred in two of Dr. Murchison's cases of enteric fever—one died comatose, the other recovered; the urine was albuminous in the first, but not in the second.

Epistaxis occurred in 13 of 58 cases, noted by Dr. Murchison; and in three cases he has known it to be the cause of death. The mean duration of the cases was 24·6 days. In six cases the disease lasted above 30 days. In some instances we have known the disease much more protracted. Without placing any reliance on critical

days, the author has found that enteric fever frequently terminates on the 21st or 28th day.

COMPLICATIONS AND SEQUELÆ.

Pneumonia and pleuritis are more frequent than in typhus; the former occurred in 13 of Dr. Murchison's 100 cases. The frequency of tuberculosis of the lungs, as a sequel of enteric fever, has been observed by every physician who has had much experience of the disease. Dr. Murchison does not think it is possible to distinguish between the different forms of peritonitis; certain it is that some cases in which it has been proved that there was no perforation, have, during life, exhibited symptoms which have led to the belief that this event had taken place. One of the most remarkable instances of the truth of this proposition is to be found in Trousseau's *Clinique Medicale*. The case is interesting, moreover, from the fact of the peritonitis appearing to be produced by mental emotion. The patient had entered upon convalescence, "lorsq 'a la suite d'une impression morale très vive, elle fut prise subitement de symptômes excessivement graves, tels que douleurs dans le ventre, vomissements bileux, alteration profonde des traits, depression du pouls, affaissement général." Rayer and other physicians believed that the case was one of peritonitis, and from perforation, and they treated it after the manner of Dr. Stokes, by large doses of opium. The examination after death, made with great care, proved that no perforation had ever taken place. It may be that some of the cases of recovery of the supposed perforation were analogous to the one recorded. The probability of perforation taking place after the patient is convalescent is one circumstance which renders enteric fever a disease so replete with danger. Though death has taken place in three or four hours after perforation, Dr. Murchison has known one case survive the event 105 hours, a second 12 days, and a third case 16 days. Of 165 autopsies which he has collected, he found that perforation had occurred in 35, or in 12·2 per cent.

Diagnosis of Enteric Fever.—The diseases, according to our author, most likely to be confounded with enteric fever are typhus, relapsing fever, remittent fever, variola, scarlatina, pyemia, latent pneumonia, acute tubercle of the lungs, tubercular meningitis, cerebral softening, gastro-enteritis, and some forms of chronic peritonitis. The diagnosis is sufficiently easy when the eruptions are well developed; but the writer truly observes that if the typhoid state be established when the patient is first seen, and nothing

known of the history, it may be impossible to say whether the case is typhus, enteric fever, cerebral disease, or disease of the kidneys.

Rate of Mortality.—Of 18,612 cases, collected from various sources, 3,447 were fatal; or a mortality of 18·52 per cent., or one in 5·8—a result almost as unfavourable as that in typhus.

The *Morbid Anatomy* of enteric fever Dr. Murchison thus sums up:—

“The agminated or solitary glands of the ilium and the mesenteric glands are invariably diseased. Other secondary lesion are found which are not essential—ulceration of mucous surfaces, pneumonia, bronchitis, hypostatic consolidation of the lungs, softening of the heart, and a large amount of intra-cranial fluid. There is no specific ‘typhous exudation,’ and no evidence that the secondary lesions are due to the deposit of a material like that found in the mesenteric and intestinal glands. There are no signs of inflammation of the brain or its membranes, to account for the cerebral symptoms.”

Remedial Treatment.—Dr. Murchison reviews the different remedies recommended in enteric fever, before coming to what he calls the “rational method.”

Blood-letting.—Few British physicians would be inclined to do more than apply a few leeches to the abdomen, which is what the author tells us he has done, and he has found marked relief follow their application, and also when applied around the anus. He thinks, however, that the like relief has followed the constant application of poultices and warm fomentations. Fully impressed with the soothing influence of the latter, we cannot agree in the opinion here expressed, but strongly recommend the practitioner to try both.

As to the effect of *cold affusion*, as practised by Currie, and lately recommended by Trousseau, the author considers that it deserves investigation.

Emetics.—The author considers emetics valuable remedial agents in the early stage of enteric fever, for gastric disturbance, vomiting, and headache. In the advanced stages they are dangerous, inasmuch as the straining may give rise to intestinal perforation.

Laxatives have been recommended by French physicians of the most extensive experience, on the supposition that the disease is the consequence of the retention in the intestines of decomposing matters. The author thinks, with good reason we believe, that the natural history of the disease contra-indicates laxatives. He

quotes, with approbation, the advice of our countryman, Dr. Todd, which is:—"Restrain diarrhea and hemorrhage in typhoid fever; and when you have fairly locked up the bowels, keep them so. Patients will go for four or six days, or even longer, without suffering inconvenience from this state of constipation."

Mineral Acids are highly commended; but, at the same time, the author feels it his duty to state that the assertion lately made in the journals that they constitute an almost infallible cure for typhus and typhoid fever, must be founded on very limited observation. It is scarcely necessary, we think, to refute so extravagant a statement.

Quinine, in small doses, combined with the mineral acids, has been found to reduce the febrile action and improve the appetite.

Diuretics.—Some remedies, recommended with a view to promote elimination by the kidneys, are inappropriate in typhoid fever—*e.g.*, nitrate and bitartrate of potash; but nitric ether or decoction of broom tops may be given. Our author repeats the wise advice given two centuries since by Baglivi, that colocynth and all the ordinary purges are "to be shunned like the plague."

Astringents.—The various means for checking diarrhea are discussed; enemata of starch and opium, aromatic sulphuric acid, and Battley's sedative liquor of opium, acetate of lead with or without acetate of morphia, Dover's Powder, and hydrargyrum cum cretâ, nitrates of silver and copper, &c., &c.; of all these we prefer Dover's Powder. We generally find small and frequently repeated doses sufficient to hold the bowels in check. Much stress is properly laid on the expediency of the constant application of poultices and stupes with turpentine, &c., &c., to the abdomen.

Hemorrhage from the Bowels.—In slight forms, acetate of lead and morphia, with starch and opium enemata, have been generally found sufficient; but in severe forms, sulphuric acid and opium with opiate enemata, are recommended. Tannin, rhatany, and perchloride of iron are mentioned. Turpentine has been given with advantage, but sulphuric acid and opium are preferred. We have found turpentine the most beneficial agent, but we do not give it in as large doses as the author (10 to 30 drops) every hour. Ice internally and applied externally, are also recommended.

Tympanitis.—Turpentine stupes and assafetida enemata, acetate of lead and morphia, or turpentine internally.

Peritonitis.—The author refers to the impossibility of determining between peritonitis from perforation and from other causes, but in

the greater number of cases it is caused by perforation. The case though desperate, is not hopeless. The opium treatment, as recommended by Dr. Stokes, is to be vigorously carried out—two grains of opium at once, and then one grain every hour, or second or third hour, according to circumstances—no mercury, no leeching; warm fomentations with turpentine.

Huss recommends ice to the abdomen, which our author thinks worthy of trial; strict rest; fluid food in small quantities.

Stimulants.—The rules for the administration of stimulants in enteric fever are highly judicious. The observation as to many cases doing well without any kind of stimulant is perfectly correct, and is well worthy the attention of young physicians, particularly at the present time.

When wine is demanded in enteric fever, it is not until a more advanced period of the disease than in typhus, and in smaller quantity. When brandy is required milk is an excellent vehicle for it; we find the mixture in most cases, highly appreciated by patients, particularly when iced. Dr. Murchison recommends wine whey also, which he prepares by adding one part of sherry to two of boiling milk, then straining.

TYPHUS AND TYPHOID CONTRASTED.

Dr. Murchison devotes a chapter to the scientific distinctions of typhus and enteric fever; and though in the course of this review or analysis of the work, we have repeatedly had to refer to the characters which distinguish the two diseases, we shall condense the arguments brought forward in support of what we may now designate the generally received opinion. We do this willingly on the *audi alteram partem* principle, because our readers have more than once, and even in a late number of our Journal, had before them the arguments on the other side, brought forward by Dr. Henry Kennedy, a physician who has devoted much attention to the subject, and whose opinions are entitled to the highest respect.

Take two typical cases:—

On the one hand—a fever of a more or less remittent type, with a definite anatomical lesion, rose-coloured lenticular spots in successive crops, diarrhea, abdominal tenderness, hemorrhages from bowels and nose, and dilated pupils—average duration, three to four weeks. On the other hand—fever of more continued character; measly eruption; the spots often changing into petechiæ; peculiar odour; contraction of pupil, and tendency to stupor; average duration, in

uncomplicated cases, not often exceeding 14 days. Dr. Murchison observes that symptoms which characterize one are sometimes absent, and may be observed in the other—as diarrhea and hemorrhage may occur in typhus, and constipation in enteric fever. He thinks, practically, the cases are rare in which a diagnosis cannot be made; and believes the difficulty more frequently arises in diagnosing enteric fever from diseases which are universally admitted to be distinct. We can fully endorse this statement, having met with cases of acute tuberculosis of the lungs, which so closely resembled enteric fever, with pulmonary complication, as to present difficulties of diagnosis most embarrassing to the physician.

The author believes the two following propositions will be found to hold good:—

“1st. When lenticular rose-spots appear in successive crops in the course of continued fever, the abdominal lesions of continued fever are invariably present.

“2nd. When the eruption of typhus shows itself in the course of continued fever, the abdominal lesions of enteric fever are absent.”

Many hundred dissections, for the last fourteen years, at the London Fever Hospital, without a *single exception*, support these propositions. Much of the difficulty and confusion which exist may be said to arise from the loose manner in which the terms applied to the eruptions in fever are employed. Upon this point our author observes:—“Unless a definite meaning be attached to the terms *typhus eruption*, as distinct from the eruption of enteric fever, it is needless to discuss the question.” He also believes that the lighter florid spots of typhus, which at first are only slightly raised above the surface, are mistaken for the spots of enteric fever; this mistake is the more likely to be made if they are unaccompanied by mottling. If these spots are watched for 24 or 48 hours, they cease to disappear on pressure, and they are generally associated with mottling. The changes characterize the typhus eruption, and are inconsistent with that of enteric fever. The writer then says:—“It is not surprising that the lesions of enteric fever were absent in a case reported by Dr. Kennedy, of Dublin, to the Medico-Chirurgical Society of London, where some of the spots, thought to be characteristic of enteric fever, were indistinguishable from true petechiæ at the end of the fourth day from their appearance.” It is worthy of notice that Huss does not mention the florid spots,

which may be slightly elevated, and which precede and are converted into the petechiæ of typhus.

It should never be lost sight of that when spots cease to disappear on pressure, or are converted into petechiæ; they are not the eruption of enteric fever, and the intestines are not found diseased after death. It is also necessary to be aware of the fact that petechiæ are not the characteristic eruption of typhus fever; they are met in other diseases, and the rash of typhus may never become petechial. Our author does not think the fact of petechiæ being observed in certain cases of fever, where the intestines have presented the lesions of enteric fever, any proof that the two fevers are identical.

Dr. Murchison has published, some years since, three cases, in which the patients seemed to labour simultaneously under both typhus and enteric fever, owing to exposure to the poisons of both diseases. There is nothing extraordinary in this when we reflect upon the admitted fact that it often happens that two diseases, originating in different poisons, may coëxist in the system. We see cases in which two of the exanthems coëxist—scarlatina and variola, and measles and scarlatina, or the hybrid disease. Why may not typhus and enteric fever? Our author admits the coëxistence of the two rashes in rare cases; but, he says, if such are adduced to prove the identity of the two diseases, the same line of argument would necessitate the conclusion that all acute specific diseases spring from one poison.

Etiology.—"The two fevers have no community of origin." The experience of the author is in accordance with that of Dr. Jenner; and he refers to that of Drs. Peacock and Wills, and to Dr. A. P. Stewart of the Middlesex Hospital, who, during nine years, has never met with a single exception. Dr. W. T. Gairdner wrote, in 1860:—"Within my experience for 10 years past, no instance has occurred of a decided origin of enteric fever in a group of typhus cases, or of typhus in a group of enteric cases; and, therefore, I am entitled to say that I have obtained very strong evidence in corroboration of the view that these two diseases are, in reality, different diseases, and not mere varieties of the same disease." Since this was written, Professor W. T. Gairdner, in his admirable work on *Clinical Medicine* (a work which we had hoped to review in this number of the Journal) makes some important observations on the distribution of enteric fever and typhus in Edinburgh. After giving all the facts as to the origin and progress of fever during the preceding Summer, he says:—"The facts, as stated, point clearly

to two fevers, and not to mere accidental varieties of one disease. Assuming the principles of diagnosis employed to be correct, it is inconceivable, on any other hypothesis than that of specific difference of type, that typhus and enteric fever should both have maintained themselves in Edinburgh at the same time, and in a certain relation to certain localities and groups of persons, but should not have been observed to be ever interchanged or substituted, the one fever for the other; that typhus should always have been associated with typhus only, and enteric fever with enteric fever only, wherever association could be distinctly traced; and that in no instance should the two diseases have ever crossed each other's path (as it were) so far as to approach within a quarter of a mile of each other, except a single instance, sufficiently explained above."

Dr. Murchison refers to the instance recorded by Huss of two individuals going to inhabit an infected house, one being attacked with typhus and the other with enteric fever; but simultaneous occurrences of typhus and scarlatina take place in the same house; and, referring to this single instance, Professor Gairdner says, such instances ought to be quite common, on the hypothesis of "identity" of the two fevers. The observations of most physicians of fever hospitals confirm the statement of Dr. Murchison, that "an attack of one fever confers an immunity from a subsequent attack of itself, but not of the other." Many authorities are quoted for the fact that one fever may follow the other—a fact we have ourselves noticed.

Dr. Corrigan relates a case of enteric fever which followed typhus, and proved fatal. The patient had been some days convalescent when the enteric fever set in. The usual changes in the intestine were found after death. Our author informs us that "in fatal cases, when the sequence of the fevers is reversed, we find only the cicatrices of the old intestinal ulcers."

Professor Gairdner, in referring to cases of enteric fever subsequently attacked with typhus in hospital, considers it a renewed illustration of the essential difference of the two fevers. He has of late, as far as was practicable, insisted on the two fevers being separated, believing that there would be less risk, on the whole, in distributing cases of enteric fever through the ordinary wards than in placing it in the same ward with the much more contagious typhus.

Having paid no ordinary attention to the subject under discussion, and having ample opportunities for observation, we have long since

ranged ourselves on the side of those who believe in the *non-identity* of the two fevers. There is no more difficult process for the human mind than giving up long-cherished opinions; and this applies to medical theories and doctrines to an extent of which we ourselves are frequently unconscious. That there are still a few honoured members of our profession who believe in the *identity* of typhus and enteric fever, or that they are mere varieties and have a common origin, we must admit; but there have been some notable desertions from their ranks of late; for example, the distinguished President of the College of Physicians of London, Dr. Watson; and we venture to prophesy others will follow.

Having brought our lengthened analysis of Dr. Murchison's work to a close, we have to express the very high opinion we entertain of the manner in which he has performed his arduous task; and to state that we look upon it as the most learned and comprehensive history of the continued fevers of Great Britain which we possess.

Having reviewed the comprehensive work of Dr. Murchison at great length we regret we cannot devote as much space as their importance merits to the Lumlian Lectures of Dr. Tweedie. We have, from our earliest student days, been acquainted with Dr. Tweedie's writings on fever, and we rejoice to find him, in the plenitude of his great experience, giving to the world his matured views on a subject so deeply interesting to the practical physician. Many men write books or contribute articles to periodicals in the early years of professional life, advancing views which they find untenable when tested by a large experience; but, how few, like Dr. Tweedie, take the trouble of making known the change which time has wrought in their opinions.

It is often a subject of regret that men who, from the extent of their opportunities must know most, write least, being often engaged in the all-absorbing work of a practice which leaves no leisure for literary labour.

The lectures of Dr. Tweedie in which he describes the treatment of the different forms of fever, may be read with advantage; and his opinions are worthy of all respect. Our own experience confirms the truth of almost all he advocates in the management of fever, with one or two exceptions. For example—in describing the treatment of enteric fever he cautions us against the exhibition of aperients when diarrhea is present—a practice sanctioned by the high authority of Louis, but he says:—

"In the very commencement, and particularly if there be uncertainty as to the state of the bowels, it may be well to exhibit a mild laxative, such as castor oil, magnesia, phosphate of soda, or rhubarb; and should the selected aperient act unduly, an aromatic draught, with a few drops of laudanum may be given to check the irritation."

Now, with all due respect for our author, we protest against the aperients, which are almost certain to "act unduly," and thus produce the "irritation" which it becomes our duty to "check."

Dr. Tweedie also says:—

"When the evacuations are frequent (more than 3 or 4 in 24 hours), the powers of the patient become enfeebled, not only by the drain on the system, but the very exertion in getting out of bed tells on the patient's strength. It becomes necessary to check this symptom, &c."

A patient in fever, whatever the form may be, should never be allowed to get out of bed, knowing, as we do, the fatal consequences which have, in some instances, resulted from such an exertion in states of great debility.

The directions which our author gives for checking the diarrhea are excellent: speaking of the employment of diacetate of lead, he tells us he is in the habit of giving it even in the early stage, under the impression, from its power of checking hemorrhage from mucous surfaces, that it is capable, not only of controlling the diarrhea but of keeping in check the ulcerative process in Peyer's patches. He also thinks highly of the efficacy of sulphate of copper and nitrate of silver, with opium, in combating the protracted diarrhea of enteric fever.

Dr. Tweedie's observations on the employment of wine and alcoholic stimulants in enteric fever deserve much attention, particularly, at the present time. "They are too often prescribed on the mere dogma of routine; and even when the symptoms warrant their employment, a much smaller quantity is required than in typhus fever."

We would gladly follow Dr. Tweedie in his judicious observations on the treatment of all the forms of fever, noticing the most important points for the benefit of our readers; but we have already devoted a large amount of space to the subject, and, in many instances, it would be going over ground which we have so lately trodden.

We shall conclude our brief notice by laying before our readers Dr. Tweedie's recantation of the views which he had long held on

the subject of the identity of fevers—in which he was supported by almost every physician in Great Britain, and which he enunciated in his article “Fever,” in the *Cyclopædia of Practical Medicine*. At that period he tells us he believed that “typhus and enteric fever were not distinct diseases.”

“It is due to my own reputation, no less than to the cause of truth, frankly to avow that more mature reflection, aided materially by investigations made in the wards of the Fever Hospital, under my immediate inspection, by my friend Dr. Jenner, and carefully weighing the arguments and deductions of recent writers—British, American, and Continental—has led me to believe that there are, at least, two distinct forms of continued fever, easily distinguished from each other during life—the one, by its invariably present lesions—the other, by the equally invariable absence of them. In short, that the two forms, though having a close resemblance in the general symptoms, and having many features in common, are as distinct from each other as they are from the periodic or from exanthematous fevers.”

A Clinical Memoir on Certain Diseases of the Eye and Ear Consequent on Inherited Syphilis. By JONATHAN HUTCHINSON, F.R.C.S., &c., &c. London: John Churchill. 1863. pp. 259.

THIS work is, as the author mentions in his preface, a much extended reprint of a series of papers originally published in the *Ophthalmic Hospital Reports*, which excited much interest amongst ophthalmic practitioners, but as they have not yet, we believe, attracted the attention of the profession at large; and, as the subject of which they treat is of scientific as well as practical importance to all, we would direct our readers' attention to it.

It is, we believe, an old suspected, and now a well established fact, although absolutely denied by Hunter, that constitutional syphilis is capable of being communicated to infants and children, either directly or indirectly. As far back as in the sixteenth century Mercatus, in his treatise on the *Morbus Gallicus*, by which title syphilis was then known, referred many hereditary affections to that disease, and explained that it was sometimes communicated to the child in utero, or by means of the breast of an infected nurse or mother. Various other ancient authors also asserted that the disease was capable of being transmitted from the parent to the

offspring. The appearance of a syphilitic infant must be familiar to our readers and needs no description on our part. The disease once seen cannot easily be forgotten; and being, in the majority of cases, readily recognized during early childhood, the proper treatment is always apparent. Later in life, however, constitutional syphilis is extremely difficult of recognition. Many affections of a remarkable and perplexing nature come under the practitioner's notice which, after resisting various remedies and plans of treatment, readily get well under the use of mercury, and which we venture to affirm are, in the majority of instances, attributable to inherited syphilis. As the subjects themselves of these affections can naturally give us no assistance in tracing their malady to the supposed cause, and as the parents, even though they may suspect the nature of such affection, will scarcely ever volunteer the required information, any indirect method of establishing or refuting our suspicion is of great practical as well as of great moral moment; and any one or more symptoms, should there be any such, which can be demonstrated to exist always, or nearly always, in the offspring of parents undoubtedly affected with syphilis prior to the birth of such child, and which shall be patent to all observers, becomes of the greatest importance. Now, Mr. Hutchinson considers he has proved the existence of an objective symptom in persons advanced to the second dentition period, and says that:—
 “Dental peculiarities, of a certain kind, are, when cautiously examined, a reliable indication of inherited taint;” and in support of the truth of his conclusions adduces Mr. Dixon and Mr. Paget as fully agreeing with him. We extract the description given of these dental peculiarities which are stated to be pathognomonic of inherited syphilis.

“*The central upper incisors of the second set are the test teeth*; and the surgeon, not thoroughly conversant with the various and very common forms of dental malformations, will avoid much risk of error if he restrict his attention to this pair. In syphilitic patients these teeth are usually short and narrow with a broad vertical notch in their edges, and their corners rounded off. Horizontal notches or furrows are often seen, but they, as a rule, have nothing to do with syphilis.” And again:—“As diagnostic of hereditary syphilis, various peculiarities are often presented by the other teeth, especially the canines,^a but *the upper central incisors are the test teeth*. When first cut these teeth are usually short and narrow,

[^a Of the permanent teeth.]

from side to side, at their edges. In the edge is a crescentic portion, thinner than the rest, which, after a time, breaks away, leaving a broad, shallow, vertical notch, which is permanent for some years, but, between twenty and thirty, usually becomes obliterated by the premature wearing down of the tooth. The two teeth often converge, but sometimes they stand widely apart. In certain instances in which the notch is either wholly absent, or but slightly marked, there is still a peculiar colour, and a narrow squareness of form, which are easily recognized by the practised eye."

Besides these dental malformations, there are other objective signs characteristic of inherited syphilis, noticeable before and after the second dentition period, some of which have been noted by other writers as well as by Mr. Hutchinson:—

"The skin is almost always thick, pasty, and opaque. It also often shows little pits and scars, the relics of a former eruption, and at the angles of the mouth are radiating linear scars, running out into the cheeks. The bridge of the nose is almost always broader than usual, and low; often it is remarkably sunk and expanded. The forehead is usually large and protuberant in the regions of the frontal eminences; often there is a well-marked broad depression a little above the eyebrows. The hair is usually dry and thin, and now and then (but only rarely) the nails are broken, and splitting into layers. . . . The occurrence of well characterised interstitial keratitis is now considered, by several high authorities, as pathognomonic of inherited taint. It is almost invariably coincident with the syphilitic type of teeth; and when these two conditions are found together in the same individual, I should certainly feel that the diagnosis was beyond doubt."

Almost each structure of the eye and its appendages is, according to Mr. Hutchinson's belief, liable to inflammation of a constitutional syphilitic nature, but the cornea, iris, and choroid appear to be specially obnoxious to that form of inflammation; and to prove that interstitial keratitis, iritis, kerato-iritis, and choroiditis, and other forms of eye diseases as well as "deafness," when occurring concomitantly with the dental and facial peculiarities alluded to, are attributable to constitutional syphilis, a very large number of cases is recorded.

Twenty-three cases of *iritis* are given as having occurred in infants, varying in *age* from six weeks to sixteen months, and in most of which there existed at the time of the *iritis* other symptoms of venereal disease, or in which the history given by the parents or

attendants was conclusive. Five of the children were males, and sixteen females; the sex of the other two is not given. The treatment recommended by the author is the daily use of atropine and mercury. Dr. Jacob, who, after Lawrence, was the first to describe syphilitic iritis in infants, says, when discussing this disease in his valuable *Treatise on the Inflammations of the Eyeball*, published in 1849:—"Mercury and the local application of extract of atropa belladonna, during the existence of the inflammation, and tonics, alteratives, and generous diet, should the disease linger, constitute the principle resources. Of the preparations of mercury the hydrargyrum c. cretâ appears the most appropriate and convenient; and in acute cases it may with advantage be combined, at first with James's powder, or other manageable antimonial. Sarsaparilla, iodine, and bark, can be resorted to as auxiliaries if necessary."

The cases illustrative of *chronic interstitial keratitis*, of syphilitic origin, occupy nearly half the book. With respect to the term *keratitis*, which is we believe much objected to in this country, we may remark that we consider it equally good, if not absolutely preferable, to the term *corneitis*. Considering that we already make use of other combinations derived from *κέρας*, such as *keratonyxis*, and that it is of great advantage to have a universal nomenclature, in which each term shall convey the same meaning to every reader, no matter in what part of the world, and that *keratitis* is now in most general use, we see no reason against its adoption in this country.

The term *interstitial keratitis* is used by the author to denote the disease hitherto known as *scrofulous corneitis*, for a description of which we refer our readers to the writings of Dr. Jacob, Mackenzie, and others; we purpose merely bringing forward Mr. Hutchinson's statistics and reasons for discarding the old name, and adopting in its stead "syphilitic keratitis." One hundred and two unselected cases are given, of which in two instances the patients were sisters, and in two brother and sister. The disease occurs principally between the *ages* of eight and fifteen, the average being ten; the youngest age noted was two, and the oldest twenty-six years. It is comparatively rare in early childhood, and still more so after adult age has been reached. As in iritis, so in this disease, females are more liable to it than males, the *sexes* being thirty-eight males, and sixty-four females. In ninety-one cases both eyes were affected, and in eleven only one eye suffered. In most of these cases the "syphilitic physiognomy" was well marked, of which the striking characters are:—"A coarse flabby skin, pits and scars in

the face and forehead, cicatrices of old fissures at the angles of the mouth, a sunken bridge to the nose, and a set of permanent teeth peculiar for their smallness, bad colour, and the *vertically notched edge of the central upper incisors*." In many cases there were, coincident with or prior to the corneal attack, ulcerative lupus, nodes on the long bones, psoriasis on the face, ulcers in the throat, laryngeal disease, pain and swelling of the knee-joint, &c. The author remarks on the *infantile history* of the patients:—

"In more than half the cases, a clear history of the occurrence of symptoms of inherited syphilis in infancy (rash, sore mouth, ulcers at anus, prolonged snuffles, &c.,) was obtained. This proportion would probably have been much increased, but that in many cases I was unable to see the patient's mother, or any one who could answer questions on this head. . . . In numerous instances the mothers admitted that some of their other children had also suffered from similar symptoms in infancy. Many of those cases in which I was unable to obtain a history, or to make inquiry as to infantile symptoms, are those in which the physiognomy, teeth, &c., were most characteristic."

And, respecting the *history of syphilis in the parents* of such children, the author observes:—

"Those who have engaged in similar inquiries will feel no surprise at the fact, that in twenty-nine cases only did I obtain from the parents a free admission that one or both had, prior to the birth of the child, suffered from venereal disease in a constitutional form. Of these, in eighteen instances the mother had been infected by her husband, and both were consequently diseased; in eight, the father only was known to have had the disease; in two, the mother had had syphilis before marriage, and believed the husband to be healthy; and in the remaining one there was a statement (probably untrue) about the communication of the disease to the infant by a tainted nurse. In about half of the cases I either had no opportunity of asking questions on this score of either parent, or did not avail myself of it. In several instances syphilitic symptoms existed in one or other parent at the time that the notes were taken, and this class includes some in which, notwithstanding, all history of primary disease was denied. In a few cases in which I could obtain no confession, the mother admitted that other medical men, who had attended her children in infancy, had asked the same questions."

The mortality amongst the brothers and sisters of the affected person will afford important information. In seventy-seven of

these cases, such mortality was specially noticed, and the result we find as follows:—

“Seventy-seven mothers had borne a total of 547 children, and of these only 284 remained alive. In other terms, seventy-seven patients, suffering from interstitial keratitis, pass before us, and we find on inquiry that, taking one with another, they have all lost, in early life, nearly half of their brothers and sisters. There can be little doubt, despite the many fallacies to which statistics expose us, that this rate of mortality is high.”

Taking for granted that syphilis is the cause of the disease, we may *à priori* assume that the *patients are generally the eldest in their respective families*, and this we find to be the fact. In eighty-two cases the patient was the eldest in fifty-five instances, second in fourteen, third in nine, fourth in three, and fifth in one instance.

“Why the first-born should suffer most often, and most severely, from a disease consequent upon syphilis in the parent, we can easily understand; it is in keeping with all that we know respecting the transmission of that disease. On the ‘strumous’ hypothesis, however, to the exclusion of inherited syphilis, I think I may fairly challenge any one to offer a shadow of explanation of the remarkable facts thus adduced.”

The author thus sums up the chief reasons which induce him to regard interstitial keratitis as a direct result of inherited syphilis.

“1. From its being a very well-marked and peculiar form of ophthalmia, it is *à priori* probable that it acknowledges some single and definite cause. 2. Its subjects are almost invariably of very peculiar physiognomy, and usually bear the most marked similarity to one another. 3. Its subjects almost invariably have thin upper central incisor teeth, of the permanent set, dwarfed and notched in a peculiar and characteristic manner. 4. In most cases the features alluded to under the last heads bear no resemblance whatever to those of “struma” properly so-called. On the contrary, the subjects of tuberculous struma, usually have large white teeth, and are often of a florid complexion. 5. I have not yet seen a single case in which the patient was the subject of phthisis, and but very few in which suppuration of the glands of the neck had occurred. 6. It affects, by preference, the eldest living child of the family, a circumstance to be expected under the syphilitic hypothesis, but wholly inexplicable under that of struma. 7. It affects female children in preference to males, and usually occurs in families in which a large infantile mortality has taken place. 8. It occurs in all classes of the community, the well-fed and under-fed, and the residents in the most healthy situations (sea

coast, &c.) as well as those of crowded cities. 9. In a large proportion of those cases in which I thought it right to make direct inquiries on the subject, I obtained a confession that one or other parent had suffered from constitutional syphilis prior to the birth of the patient. 10. In a very large majority of these cases in which I obtained information as to the health of the patient during early childhood, a clear history of the usual symptoms of infantile syphilis was given. 11. In many instances there was a clear history of symptoms of infantile syphilis having been observed in brothers or sisters of the patient. 12. Whilst, as above observed, enlargements of the lymphatic glands are unusual, other affections far more closely connected with syphilis than with true struma, such as nodes, ulceration of the palate, and erosive lupus, are not infrequent in the subjects of this disease."

While we agree generally with the author's views, we cannot concur in his belief that interstitial keratitis never occurs but in the subjects of inherited syphilis; neither can we coincide with Mr. Dixon, the senior surgeon of the Royal London Ophthalmic Hospital, when he says that it is desirable to discard altogether the old name of strumous corneitis, "and designate it by the shorter one of *syphilitic keratitis*." Last year we had under our treatment a young man, aged 20, from one of the midland counties of Ireland, with double kerato-iritis. He was tall, and well made, his teeth were well formed, and there were no scars or pits about the face, and the physiognomy was decidedly not syphilitic. The mother stated she had no miscarriage, that she and her husband had always been healthy, and had six children, who were all alive at the time. We saw this patient again this year, when his condition was very much improved; but there still remained some deposits in the cornea. Lately another case of interstitial keratitis came under our observation, of which we could obtain no history; but the boy's appearance was undoubtedly that of struma; cicatrices of abscesses and suppurated glands existed in the neck; his upper lip was very thick and projecting; the alæ nasi were also thick, and the nares wide and flattened; his teeth were well formed. These two cases were, in our opinion, purely scrofulous; they are, however, the only two we can at the moment recall as militating against Mr. Hutchinson's assertion. On the other hand, we have seen many cases of keratitis, some of which are even at present under our care, which are undoubtedly of syphilitic origin, and which we have pointed out to our pupils as such. We subjoin one of these from our rough notes.

H. M'G., aged twenty-one, was led to us, being quite blind from

interstitial keratitis White, pasty skin; large hydrocephalic head; forehead square, massive, and projecting; mouth small and puckered from old cicatrices; the two middle upper incisors wedge-shaped and notched; others slightly notched; her height was four feet three inches; the length of face, from hair of forehead to the chin, was eight inches, and the circumference of the head round the frontal eminences measured twenty-four inches. The only history we could obtain was that the mother had one other child which was still-born.

Happily the instances of affections traceable to inherited syphilis, which have come under our notice in this country, have not been numerous; so far as we can judge, from four years experience, our attention having been first directed to the subject in 1859, the proportion of such affected children is less in this country than in England.

The *treatment* recommended "consists of the cautious use of mercurials and iodines, at the same time supporting the system by tonics and a liberal diet." In all such affections we have also found the syrup of iodide of iron, as recommended by Dr. Jacob, in the treatment of strumous corneitis, a most valuable medicine; and we would specially caution against the omission of atropine, for in many of those cases where that remedy has not been used, it will be found, on recovery of the corneal disease, that the pupil has become more or less attached to the capsule of the lens.

Chapter III. treats of *Choroiditis* and *Retinitis*; as examples of which fourteen cases are adduced—eight males and six females, whose ages varied from nine to twenty-six. In eleven of these cases there was no doubt as to the patient being the offspring of syphilitic parents; one was the only living child out of sixteen, two were "suspicious," and one was the subject of both hereditary and acquired disease.

Chapter VIII. treats of diseases of the *ocular appendages* as dependent upon hereditary syphilis; of which the author remarks, that "none of these affections are, by any means, peculiar to the subjects of hereditary taint." A great majority of syphilitic infants, in addition to being fretful and restless, puny, wasted, with the features wrinkled, voice husky, and breathing obstructed, &c., are also subject to purulent ophthalmia, tender and inflamed eyelids, lachrymation, intolerance of light, &c., &c. The following case is interesting in so far as there was disease of the lachrymal apparatus in a boy the subject of inherited syphilis. A gentleman consulted

us about his child, a healthy-looking little fellow of two years of age, who was suffering from acute inflammation of the lachrymal sac on both sides. There were one or two ugly-looking small sores about the face, and the nail of the little finger was peeling off. We should not have attached special importance to these symptoms had not the father volunteered the information that he had had syphilis prior to marriage, which he believed to have been cured, but that, notwithstanding, the child had a rash and other symptoms in infancy which the medical attendant pronounced to be syphilitic. Our opinion having been asked, we did not feel justified, even under the circumstances, in pronouncing the lachrymal disease to be due to inherited syphilis. The mother of this child bore the mark of a large scrofulous abscess under the chin.

Chapter VII., on *Deafness in Connexion with Inherited Syphilis*, is a very brief one, comprising twenty-one cases, which had all been the subject of interstitial keratitis. The author observes that "deafness, in a greater or less degree, is frequent in the subjects of inherited syphilis," and that such deafness is, he believes, "due either to disease of the nerve itself, or to some change in non-accessible parts of the auditory apparatus. Its symmetry in all the cases would point to a central cause." This statement is, however, not based upon any observations of the author; for, unfortunately, he made no examination of the ears in sixteen cases, and in the remaining five he availed himself of the "special knowledge of ear diseases" possessed by his friend Mr. Hinton. As to the cause of the deafness, therefore, these sixteen cases are almost useless; for the only note specially referring to the ear is one regarding the presence or absence of otorrhœa. This symptom is mentioned as having occurred in nearly all these sixteen cases, but "in all, except one, it had quite ceased before the patient came under notice. . . . The age at which deafness is most liable to occur appears to be about the same as that at which interstitial keratitis is most frequent, from five years before puberty to five years after that period;" and the proportion of the *sexes*, in the twenty-one cases, is more than two-thirds females to one-third males. "In nine cases the patients were utterly deaf, whilst in most of the others the loss of hearing had advanced to a very considerable degree." In the five cases which were examined the objective symptoms noted were:—

1. "The membrana tympani in each [ear] was found drier than

natural, and rather too concave; but there was nothing discovered to account for the state of extreme deafness. The Eustachian tubes were pervious." 2. "The lining membrane of the meatus was covered by desquamated epithelium; and the membrana tympani was drier, and rather more opaque than usual." 3. "There was an accumulation of white, dry epidermic scales, not easily detached. In both ears the membrana tympani, although dryish and rather opaque, was entire." 4. "The membrana tympani was [in each ear] somewhat collapsed and sunken. Both membranes were also opaque and dryish;" and 5. "The ear is dry internally, but there is no other visible peculiarity."

We confess to some surprise on seeing the symptom dryness noted as an indication of disease, or as an unusual appearance in the membrana tympani. We have hitherto been under the impression that the drum of the ear was very dry, and that in order to perform its vibratory function properly there should be an absence of moisture. Apart, however, from this symptom, four of those cases indicate at least disease of the membrana tympani, and prove Mr. Hutchinson's opinion to be rather erroneous than the contrary. With respect to ear diseases in general, we are of opinion that they are analogous to eye diseases; and, judging from analogy alone, who should expect to find in these syphilitic cases inflammation of the vibratory apparatus of the ear to be the cause of impaired hearing, in the same proportion as inflammation of the cornea and iris is the cause of impaired vision. The three following cases will, we believe, confirm our view, the first of which occurred some years ago, and our note of which is:—

Syphilitic Corneitis and Myringitis.—M. A. R., a girl, aged ten, with teeth well marked, and characteristic, according to Mr. Hutchinson, of inherited syphilis. The girl presents an example of chronic myringitis, and also corneitis in right, and a few deposits in left cornea. The mother stated that she contracted syphilis from her husband shortly after marriage; that she had no miscarriage, but that five out of ten children died in early infancy; that the children, especially the subject of this note, had eruptions and snuffles. Under treatment the membrana tympani became free of vessels, and regained its polish and natural colour, and the cornea likewise became clear. This note, although defective in many respects, establishes the existence of inflammation of the membrana tympani concomitantly with inflammation of the cornea in a person the subject of inherited taint. The following case came under our observation more recently; but as we only saw it once, we have not

been able to follow it out. H. Q., aged fifteen, skin white and pasty; scars on forehead and mouth; teeth remarkably typical, the four upper incisors being wedge-shaped, notched, and grooved, and irregularly placed; the two canines are broad-based, terminating in a fine triangular point; the central lower teeth are all peg-shaped, and worn flat at their apices; there are deposits in both corneæ from old keratitis. When about six years old the boy had pain and swelling in both knees; has always occasional "rheumatic and growing pains" in the shoulders and arms. The mother had several miscarriages; the subject of this note is the younger of two living children, and had no rash or snuffles, but his sister who had sore eyes, and still has very delicate health, suffered very severely from them. When he was about ten years of age he suffered from occasional pain in the ears. After removing a quantity of soft wax and extraneous matter, we found the membranes, on the right side, very much collapsed, so that the tubercle of the malleus appeared to stand out much more prominently than it ought. The membrane below the tubercle was of a uniform red colour, and very concave, or rather funnel shaped; this condition, as well as the total absence of any attempt at vibratory motion when air was forcibly expired, with the nose and mouth closed, led us to believe that the membrane had become adherent to the inner wall of the cavity of the tympanum. The hearing, notwithstanding, was not very defective, a proof, we think, that the nervous apparatus was tolerably sound. In the left ear the membrana tympani was, to a great extent, lost, revealing the wall of the cavity to view.

The third case was that of a boy, J. K., aged twelve, who came under our care with keratitis on the right side, and in whom we found the membrana tympani, at the same side, of a pinkish colour, and resembling, in appearance, muffed glass; and the speck of light, produced by reflection, was absent. The hearing was very slightly affected. The boy's head was large and flattened; his face was old-fashioned; the upper teeth were irregularly placed, wedge-shaped, and notched; the lower ones being peg-shaped. He had a red rash when born; had snuffles, &c. The mother had chancres, for which she was treated subsequent to the birth of this child; and had three other children, who were all alive at the time we saw her.

Whether the membrana tympani is, in all cases of the deafness of inherited syphilis, the structure chiefly implicated, we cannot, from our small experience, assert; but those three, as well as some of Mr.

Hutchinson's cases, would, we believe, indicate that such was the case; and judging from them and from analogy we cannot concur with the author, when he states that "the cases constitute the analogues of syphilitic retinitis, and of white atrophy of the optic nerves"—two conditions which are, we think, of unfrequent occurrence. The following is a case of acquired syphilis manifesting itself in the membrana tympani:—Last year a railway porter had been under our care for syphilitic iritis; and when nearly well, and still partially under the influence of mercury, he complained of a "buzzing," and some pain, and deafness in one ear. The membrana tympani was of a brownish red colour, with loss of polish, and alteration in the reflection of light; towards the inferior margin there was a well marked crescentic opacity. Under repeated local depletion, and the continued use of small doses of mercury, with a tonic, the noises ceased, the membrane became, daily, paler, and finally regained its natural colour and polish, and the hearing was perfectly restored.

In his *Aural Surgery*, Mr. Wilde devotes a chapter to the consideration of "*otitis, in connexion with ophthalmia*," and another to "*strumous myringitis*," both of which we would quote *in extenso*, as bearing closely on this subject, did our space permit. He observes, "that strumous myringitis is a frequent affection in young persons. Its subjects are usually from five to fifteen, or sixteen years of age; but it may appear at a much later period. It chiefly attacks the light-haired, fair-skinned, blue-eyed, and those who exhibit well-marked evidences of a scrofulous constitution;" and again, "strumous affections of the eyes are not an infrequent complication; and these, particularly corneitis, which it very much resembles, and also strumous ophthalmia, sometimes alternate with the affections of the ear, as shall be further explained in this chapter." In these cases the tympanal membrane will be found of a uniform pinkish hue, but without either thickening or opacity, at least in the early stages.

We would suggest the adoption of the name *inherited syphilitic myringitis*, in addition to strumous myringitis, which we still believe to exist. In how far venereal disease and struma may be two names, signifying one and the same disease, we leave to others to judge; many writers have considered them to be synonymous.

The length of period which had elapsed between the date of the primary disease in the contaminating parent and the birth of the infected

child, it is from the very nature of the inquiry, almost impossible to determine.

“In one instance the mother, it appeared, had had primary syphilis only three months before the infant’s birth; and in another the period was four; and in a third six months. In five cases it seemed probable that a period somewhat less than a year had elapsed, whilst in five it had been at least two years. In two, judging by the fact that the mother had borne a number of children, some of whom had showed suspicious symptoms, the date of the original disease in the father could not be placed nearer than six or seven years.”

One of the series of aphorisms with which the book concludes is:—
“A husband who is himself wholly free from symptoms, and has been so for years, may yet beget tainted children.” For further particulars on this subject we would recommend the perusal of Mr. Whitehead’s valuable treatise on *Hereditary Diseases*, in which there is recorded, amongst other interesting cases, one of secondary syphilis, sixteen years after the primary affection, in a female whose child died of hereditary disease; and another of secondary syphilis during pregnancy, and transmission to the infant, thence through labial contact to a third party, and thence hereditarily to the fourth remove.

The dental peculiarities are illustrated by several wood-cuts, and one plate; and there is a second plate illustrative of keratitis and choroido-retinitis. The plan of the work appears to us unsatisfactory; we would suggest to the author, should a second edition of the volume be published, to compress the general comments, at present scattered through the work, into a prefatory essay, which would make the book more readable and useful.

Many and great as the evils which syphilis entails are acknowledged to be, our daily increasing knowledge and diagnostic powers may still add more to the list; and we believe Mr. Hutchinson has established the fact that certain diseased conditions of the eyes are attributable to the venereal virus, as well as pointed out almost unerring symptoms by means of which it may be recognised; and we have no doubt his work will long be esteemed as a standard one on the subject.

Practical Lithotomy and Lithotrity, or an Enquiry into the Best Modes of Removing Stone from the Bladder. By HENRY THOMPSON, F.R.C.S., University College Hospital; Consulting Surgeon to the St. Marylebone Infirmary; Fellow of University College; Hon. Corresponding Member of the Société de Chirurgie of Paris, &c., &c. London: John Churchill and Sons, New Burlington-street. 1863.

WHEN we say that we have read this book throughout, and that we have not felt *ennui*, the opinion we entertain respecting it may be anticipated. Indeed our impressions beforehand could not be otherwise than favourable, inasmuch as from the earliest period of his professional life the author has distinguished himself as a zealous student in the investigation of the diseases of the urinary organs, and has justly acquired much reputation on the subject. We learn from the Preface that his sole object is "to present a consideration of the best operative procedures now in use for the removal of stone from the bladder of the male patient," and when we reflect on the ample and varied sources from which a large portion of the practical details given are being furnished, we must admit that "the students in medicine," to whom this work is specially inscribed, are fortunate to have so very rich an addition made to their present stock of knowledge on two of the most interesting topics in surgery. Yet, even here, *in limine*, we cannot avoid the remark that, whilst valuable materials have been gleaned and acknowledged from English, from French, and from Continental authorities, Ireland has not even had a passing notice, although on the subject of lithotomy, and on that of lithotrity, its periodicals contain communications full of original suggestions, and inferior to no others elsewhere published; we would instance those of the late Sir Philip Crampton, in the first and third volumes of this Journal, as remarkable for their simple attractive style as for their practical excellence. This, to say the least, is not as it should be.

We find it difficult to give, in the limited review we contemplate, a sketch sufficient to manifest our estimate of the value of this work. Divided into its two principal sections of Lithotomy and Lithotrity, those subjects are considered under separate chapters, and prominent details of vast utility are brought under notice, connected with each. We cannot but admire throughout, the lucid exposition of those broad principles of practice, which, under the authorship

of the late Sir Benjamin Brodie, and under that of M. Civiale, have guided the surgical profession at large for so lengthened a period in this department of surgery, and we refer with pleasure to the remarks of our author, as confirmatory of the sterling value of those principles. The practical questions connected with the several operations of lithotomy, and the systematic applications of lithotrity—the suitable selection of either operative procedure—the difficulties and dangers attendant upon each—and the varied circumstances which may exercise an influence on the results of each—are treated of with considerable tact and care, and the chapters devoted to them manifest a large and creditable amount of clinical research. We have seen much of each of those procedures, and have had a tolerable amount of personal experience in each; we have had our lateral, our median, and our suprapubic operations of lithotomy—we have operated on the child, the adult, and the aged man—we have witnessed and experienced the difficulties and dangers alluded to by our author, and the results arising from them, and we can bear full testimony as to his remarks being replete with material most instructive to the student, and most practical in its bearings.

The same observations are applicable to the subject of lithotrity; the mechanical principles which are to guide the surgeon are clearly defined, and the proper adaptation of the expedients requisite, in different cases, explained. The array of instruments delineated under this section cannot fail to impress the reader with the debt due by the profession to the ingenuity, the industry, and the talent of the mechanists. In our own more recent operations we were fully satisfied with Weiss and Son's new lithotrite, much as marked in Fig 51; and when we were tormented with the retention of one of those fragments, often so obstinate and unmanageable, the lithotrites, figured 51 and 52, with Charriere's beautiful provisions, answered our purpose for removing them most satisfactorily. In some of our cases the fragmentary portions were very large, and presented those irregularities of form resulting from the physical characters of the respective calculi; in all our cases, however, the fragments escaped by the unaided efforts of micturition, without the necessity of washing out the bladder, and without the use of any of those mechanical agencies which, too often, produce a considerable amount of local violence. Those passing remarks, however, should not, by any means, lessen the intrinsic value of the important details entered into by our author; all should be carefully studied.

We had contemplated the insertion of some extracts from the chapters on each subject. We find we cannot do so, and do not regret it, as we rather desire to direct attention to the work itself for information on the many practical points it enumerates. We conclude with the repetition of our favourable opinion of this book. Its usefulness cannot be questioned, and we feel satisfied it will be received by the profession as a welcome contribution to surgical literature.

On the Cure of Club-foot, without Cutting Tendons, and on Certain New Methods of Treating other Deformities. By RICHARD BARWELL, F.R.C.S.; Assistant Surgeon Charing-cross Hospital; Author of a *Treatise on Diseases of the Joints*. Illustrated by Engravings on Wood. London: John Churchill and Sons, New Burlington-street.

MR. BARWELL is favourably known to the profession by reason of his valuable contributions to surgical science. His work upon diseases of the joints has established his character as a painstaking philosophical surgeon, foremost in the ranks of those pathologists who, within a recent period, have so materially contributed to the advancement of this particular branch of surgery. The nucleus of the present treatise was introduced to the profession in 1861 by a paper read before the Medico-Chirurgical Society, entitled, "On Certain Grave Evils Resulting from Tenotomy, and on a New Method of Curing Deformities of the Foot." The author, from an early period of his professional career, has paid much attention to joint diseases, and to the methods of remedying the lameness thereby produced; and, as he observes in his preface:—

"Among such cases lameness from other causes came frequently under my observation. I studied these maladies from the orthopedic point of view; and, while tenotomy was still almost a novelty in England, was so charmed with the easy change of form which, after such an operation, could be produced in most distortions, that I became an almost enthusiastic admirer of the procedure. After, however, following up, carefully, a large number of these cases, I was pained to find in how many of them the deformity, more or less, returned; in how many more a different and opposite distortion supervened; while power over the limb was actually injured or destroyed in so large a majority of instances

that its retention appeared absolutely exceptional. . . . A further study convinced me that deformities of the foot, the so-called talipes, all primarily affect the front half of the limb, and that the mechanical and after treatment of club-foot by shoes, all of which act principally on the ankle-joint, was manifestly ill-adapted for the purpose in view. This fresh insight furnished the clue which enabled me to discover the causes of the above-mentioned failures in treatment. I perceived, namely, that to fasten the sole, which ought to be mobile and free, upon a stiff iron, and to force the contracted muscles, *while at rest*, into a new posture, could only be a temporary remedy for the contraction, and must be an injurious or fatal augmentation of the paralysis, which is the 'head and front of the offending.'"

Such were the considerations that led the author to the treatment of the different forms of talipes, upon principles totally opposed to tenotomy, and suggested the substitution of a force, "which, instead of squeezing an inactive foot into, as it were, a moulded and inactive shape, should guide active but abnormal movement into its normal direction and relationship."

The treatise is divided into twelve chapters, which treat successively of:—1. The foot, its architectural structure, movements, attachments of muscles, &c. 2. Deformities of the foot, and their proximate cause. 3. Impropriety of tendon cutting, and its evil results. 4. The mechanical and after treatment. 5. My new method of treatment. 6. Flat foot. 7. Talipes valgus. 8. Talipes varus. 9. Talipes equinus. 10. Talipes calcaneus. 11. Deformities of the leg. 12. Crooked shins. An appendix is added, illustrating by cases the different chapters, which are still further elucidated by seventeen well executed engravings on wood.

In the introductory chapter a very excellent description is given of the mechanism of the foot, and of its buttresses and arches; particular notice is taken of that transverse joint, the "mediotarsal," situate between the astragalus and os calcis posteriorly, and the navicular and cuboid bones in front, just anterior to the point that supports the weight, and which, possessing a very extensive range of motion in all directions, is the articulation that chiefly confers flexibility on the member. It is further pointed out that all the tendons proceeding from the leg (the tendo Achilles excepted) are inserted into the front half of the foot anterior to this articulation, and consequently must act primarily on it, and only secondarily on the ankle-joint proper. The author regards ligamentous structures as being altogether subordinate to muscular

action in preserving the form and architectural beauty of the foot:—"The office of keeping up the longitudinal arch of the foot is ascribed to the plantar fascia, but fascia and ligaments are never placed as the guardians of position—this task is always confided to muscular structures; it is to the even balance of power among the muscles that the foot depends for its efficiency and form; for it is easy to perceive that a slight preponderance or deficiency of power in one part or the other would throw a limb, made up of so many nicely adjusted parts, into some false form or position." A very important function is attributed to the *tibialis anticus* muscle, whose tendon hooks round the internal cuneiform bone to be inserted into its under surface, and into the base of the first metatarsal, *i.e.* the highest point of the pedal arch. "Thus we see that the construction is suspended to a sling which, attached high above it, keeps up the key-stone, and thus the whole edifice, not by an immovable ligamentous tie, but by a mobile force, which acts more or less as the occasion may require." These doctrines are of the greatest practical importance, as will appear when Mr. Barwell's own plan of treating pedal deformities comes to be considered. We were disappointed at finding no allusion to the strong calcaneo-navicular ligament, which, from its structure and position, must confer considerable strength and flexibility upon the inner border of the foot.

In the second chapter the author joins issue with the orthopedists as to the proximate cause of talipes in all its varieties; very few of the malformations of the foot originate in arrest of development, or congenital deficiency of the bones, they are nearly all the result of abnormality of position; and if changes of form do occasionally occur in the bones, these are only secondary. Thus pedal deformities are simply exaggerations and perpetuations of some natural position of the foot:—Talipes equinus is exaggerated extension; talipes calcaneus, excessive flexion; talipes varus, superabundant adduction; and talipes valgus, redundant abduction. Again, the highest authorities aver that club-foot, whether congenital or otherwise, is attended by spasm, or some form of abnormal contraction which eventuates in a condition of rigid atrophy, and organic change in the muscles primarily affected. Mr. Barwell's views are diametrically opposed to this doctrine, as will appear from the following quotation:—

"Unfortunately paralysis, more or less partial and transient, or general

and persistent, is extremely common with children; we find such condition left behind after convulsions; it comes on without convulsions from irritation, intestinal, cutaneous, &c. It does not lie within the scope of this work to discuss the large range of infantile neuro-muscular disease, yet it must be permitted me to point out its two aspects; for instance how *laryngismus stridulus*, or false croup, which by some is attributed to spasms of certain muscles, is, by other authorities, and I believe with more reason, considered as paralysis of a different pair. Let it be observed, also, that the squint which may come on with other symptoms of brain mischief, or may be a permanent affection, is certainly to be more rationally regarded as want of action in the outer rectus, which appropriates the whole of one nerve (the sixth), than as spasm of the inner rectus, whose nerve supplies four other muscles of the eye and appendages. Certain also it is that some congenital deficiencies of the nervous system, whereof club-foot and club-hand are pretty constant accompaniments, as acephalosis, &c., &c., may, indeed must, produce paralysis; but there is no evident connexion between such deformity and spasm. Then, again, the legs and feet of children, even of adults, affected with talipes are always very low in temperature and power of circulation; such condition is a constant accompaniment of paralysis; a contrary state is the ordinary attendant of spasm; moreover muscular spasm, as a rule, is a very transient condition; altogether there can be no doubt but that paralysis is very much more frequently the cause of club-foot than the opposite condition; indeed my opinion, deduced from careful study of many cases, is that spasm very rarely produces talipes. . . . The weakened muscles want assistance, and the way to render this in the manner which shall best aid them to overcome their deformity, and to recover from their paralysed and enfeebled condition, is the problem which surgery should endeavour to solve. Orthopedism having, as it appears to me, taken a point of view which has led into grievous errors of treatment, I have applied myself to the above inquiry, and believe that its true solution will be found in the following pages."

In the chapter "On the Impropriety of Tendon Cutting and its Evil Results," reference is made to four experiments performed on dogs by M. Bouvier, in 1842, from which it would appear, in so far at least as we may be permitted to argue from the results on these animals, that the division of tendons is invariably followed by a destruction of the action of the corresponding muscles; notice is also taken of Mr. Adams' treatise *On the Reparative Process in Human Tendons*, and an analysis given of the twelve cases of *post mortem* examination detailed therein; these cases Mr. Barwell

supposes strongly support his views as to the effects of dividing such tendons as are furnished with closely fitting sheaths—namely, that union seldom or never occurs through the medium of an intervening substance, but that the ends of the severed tendons adhere to the inside of the fibrous pulley, or to the adjoining bone, so as utterly to annihilate all muscular action.

We subjoin his analysis of the entire series:—

“The result therefore of the cases is this—that out of six divisions of the anterior tibial tendon we have two non-unions, *i.e.* in a third of the cases operated on the muscle is destroyed. In every instance in which the posterior tibial tendon, and the long flexor of the toes were divided, one or both, the action of the muscles was utterly annihilated, and of course that lameness and uncertainty of the foot, above described, must have followed.”

And certainly if we can realize in the paragraph referred to (which is subjoined) a true description of the subjects of orthopedic interference in the way of tenotomy, the proceeding inaugurated by Stromeyer, in 1832, and since so extensively practised at home and abroad by the most eminent surgeons, can scarcely be considered a boon to humanity.

“A goodly number of club-footed patients come under notice with the paralysis still continuing, a good many with the muscles still excessively languid. The patient is in one of the following conditions:—He has either too few muscles, or some of his muscles are too weak to act; and the so-called orthopedic practice of the present day is, unfortunately, to cut the tendons, and destroy the power of those organs which are still healthy. It is quite certain that if all the active tendons be divided, so that there be nothing to resist any external force, the foot can be squeezed into something like shape, but to the annihilation of its power. . . . We might consider such divisions, even under ordinary circumstances, sufficiently severe, but let us imagine it for a moment where most of the uncut muscles are paralysed, and we shall have to picture to ourselves the foot as an inert mass, hanging to the end of the leg like the swinger of a flail.”

A sentence of heavy censure is passed upon the mechanical and after-treatment of club-foot, subsequent to the division of tendons according to the orthopedic fashion. It is maintained that Scarpa's shoe, and all mechanisms founded upon the same plan, which act upon the foot as a whole, are erroneous in principle and mischievous in their effects. It is the front part of the foot in all the varieties

of talipes that is primarily and chiefly displaced—the medio-tarsal, and not the ankle joint, being the chief seat of distortion, whereas the rotating and flexing power of these implements are exercised on the ankle joint, whose position is only slightly and secondarily affected. Another, and a graver, reason is assigned against the employment of such instruments:—

“The greater number, if not all, deformities are produced by debility or paralysis of certain muscles. Now, as soon as a muscle is thus circumstanced, everything which might aid fatty degeneration ought to be avoided, for in youth by far the greater number of paralyses are curable, while such degeneration can be prevented. But orthopedic treatment appears especially designed to favour and hasten the advent and progress of this condition. The non-paralysed muscles are cut ensuring to them the most complete loss of function, while the foot is fastened upon an iron plate in such wise as to prevent any movement of the sole, therefore all muscular action; and this confinement is enforced for six weeks, or for as many months. Of course, when the foot is released, all the muscles will have been reduced to the last stage of debility, and the patient will be fortunate if fatty degeneration have not advanced far enough to deprive him of the use even of those muscles that have not been divided.”

Having so far laid before our readers Mr. Barwell's objections to the ordinary orthopedic treatment of talipes, we shall now permit him to expound his “own method of treatment.” It is conceived and founded on the following principles:—

“1st. That as the loss of balance in muscular action, which produces the deformity, is nearly always caused by paralysis of a certain set of muscles, we are to restore that balance.

“2nd. This restoration is to be accomplished by substituting a force for the weakened and paralysed muscles, and not by depriving the still useful ones of their power.

“3rd. That the succedaneum must be applied as nearly as possible in the direction and position of the paralysed organ or organs, and must act on the parts, and on those only on which the muscular force is normally expended.

“4th. Thus the foot is not to be treated as a whole, but as a compound of many bones, each of which being subject to muscular action, plays a definite part in deformities.

“5th. That since motion is essential to prevent, or overcome fatty degeneration, as well as to allow the weakened muscles to recover their power, the foot is not to be fastened to any rigid clog; but on the

contrary, each part is to be allowed movement, which is gradually to be guided by the imitative force from an abnormal into a normal direction."

Acting then upon these principles, and recognising the fact already adverted to, as to the part of the foot primarily and mainly displaced, that the distortion involves the medio-tarsal, and not the ankle joint, Mr. Barwell substitutes for the weakened or paralysed muscles springs of India-rubber, stretched accurately between their origin and insertion and along their course, at a degree of tension sufficient to supplant their weakened or supply their absent power. The insertion of the muscle is represented by a slip of adhesive plaster fixed over the place of attachment of the tendon, and its origin by a loop of wire connected with the top of a tin splint strapped on the leg, in a manner presently to be described. After supplying some apposite remarks upon the extensibility and elastic power of caoutchouc, and detailing an interesting fact, in proof of the amazing length of time these properties are maintained by this substance under extreme tension—and having given a mechanical formula whereby to determine the amount of force India rubber cords are capable of exerting, the author proceeds to describe, in detail, the different forms of club-foot—their pathological causes and prognosis, and his special mode of treating each variety of the deformity. Flat-foot is ascribed to weakness or loss of power of the *tibialis anticus*, and not as the orthopedists teach, to relaxation of the plantar fascia. It is to be cured by a force imitative of the lost action of the muscle. *Talipes valgus* is caused by paralysis, partial or complete, of the anterior and posterior tibial muscles, and not as stated in orthopedic books, by unnatural elongation of the ligaments of the sole; and the one rational indication of treatment is to restore the posture by supplying a force in place of the power whose absence produced the deformity, and this is to be accomplished by India-rubber springs acting along the course and in lieu of the muscles. *Talipes varus*, the direct contrary to *valgus*, is occasioned by paralysis of the *peronei* muscles, and the plan to be pursued is to aid and abet their action by the same means, and not to destroy the power of their antagonists by tenotomy, as commonly practised. *Talipes equinus* is also caused by paralysis, the affected muscles being those supplied by the anterior tibial nerve; and the same principle of treatment is enforced, namely, to supplement the lost muscular power by an artificial one, and to act primarily on the

part primarily distorted, namely, the front of the foot. Talipes calcaneus is so extremely rare that the author frankly confesses never to have seen a true example of it. Without diagrams it would be difficult to convey an accurate idea of Mr. Barwell's apparatus, and its method of application to all the forms of talipes; we shall, however, transcribe his method of proceeding in the case of the simplest pedal deformity, namely, flat-foot, and refer our readers to the book itself (which is well illustrated by engravings on wood), for the elaborate details of its adjustment in the more complicated distortions.

"First, a trapezoid piece of plaster is made to adhere with its broader portion to the inside of the sole of the foot, over the cuneiform and head of the first metatarsal bone, and extending beyond their outer edge even to the outer side of the foot. The direction of this plaster must be the same as the anterior tibial tendon; the narrower part should terminate upon the inside of the foot, just in front of the inner malleolus. This end is not to adhere to the skin, but is to be doubled down, sticky sides together, and through the twofold thickness an eyelet is to be driven. The foot is now to be held, by an assistant, as nearly as possible in the proper position, and to be evenly strapped from before backward, leaving out the end of plaster into which the eyelet was driven. We now turn to the leg: a piece of strapping, from three quarters of an inch to an inch broad, not quite three times as long as the distance from below the knee to the ankle, is made to stick firmly over the course of the anterior tibial muscle, upon whose origin one of the ends lie, the other hanging loose below the foot. The surgeon must be provided with a piece of tin, rather narrower than the long piece of strapping, and long enough to reach from the tuberosity of the tibia to a short distance above the ankle-joint. This tin, by means of two holes in its upper part, supports a wire loop, and is to be bent into a concave shape, and to be twisted a little, so as to fit roughly over the surface of the muscle. It is safer to give the lower end a little inclination outwards, so that any force, subsequently to be exerted, may not press its edge against the shin. The piece of tin is to be laid upon the strapping, whose lower end is to be turned up over the metal, and held there, while the leg is carefully strapped from below upwards. At the top of the tin a hole must be made in the strapping to permit the wire loop to come through; and I must caution the surgeon that it is necessary to fasten down, with the strapping, the little end of tin which extends beyond the loop. There remains an additional length of the longitudinal piece of plaster now lying above the rest of the appliance; this may be brought down, and for more security, made to lie on the outside of the circular straps. It will be perceived that the longitudinal piece of strapping is

arranged in certain folds, as follows :—It first adheres to the skin of the leg, then turning upwards forms a loop round the lower end of the tin, running up, with its sticky side outwards, and adherent to the inner surface of the circular straps, it thence turns round over the last transverse piece, and is brought down on the outside. By this means we have established, at the upper part of the leg, on the origin of the muscle to be supplied, a fixed point; the wire eye, supported through the medium of the tin by a loop of plaster, which takes its bearing in such a manner that no constriction of the limb can be produced, whatever downward force be exerted on the wire; now it only remains to stretch between the wire loop and the eyelet in the piece of plaster, representing the insertion of the tendon, an Indian-rubber spring of such length as shall sufficiently supply the muscle without producing undue pressure.”

It is necessary to renew and re-adjust the apparatus at the end of a week or ten days; and the average time required for the cure of such club-feet as are not of a very aggravated description, would appear to be about three months. Throughout the whole period of treatment exercise is not only permitted but sedulously enjoined.

“If the patient be of age to walk, it is desirable, from the first, not to keep him in bed; our hopes of a permanent cure, without lameness, depend upon the muscles regaining such power as to act sufficiently strongly to retain of themselves the foot in its proper place. The paralysis in children does not continue total for any great length of time, but the muscle is very much weakened, and it is only by exercise that its strength can be restored.”

We have now to notice a novel application of chloroform, the invention of which Mr. Barwell claims for himself; and most assuredly if anæsthesia be found an effectual means of reducing these deformities it recommends itself strongly as a valuable substitute for tenotomy.

“The time necessary for reducing the deformity in severe cases may, however, be very much shortened by the use of sudden extension under the influence of chloroform. This also is a procedure of my own adaptation to these diseases, and is one from which very great advantage may be drawn; but, I would limit its employment to severe cases, and would caution surgeons against the use of violence, since, when once the muscular power is annihilated by the anæsthetic, very little force is required to place the foot in a normal position.”

The mode of proceeding while the patient is under the influence

of chloroform, and the manipulations necessary to accomplish the purpose intended, are particularly described by Mr. Barwell. It would appear that the foot, by the method recommended, may be very quickly reduced to a nearly normal position; and, moreover, that by a combination of the two plans the deformity may be removed in a very short space of time—a month has sufficed almost to effect a cure.

With reference to prognosis our judgment must be influenced by various circumstances—viz., the amount of deformity and the change of form which the bones may have undergone—the age of the patient and the general condition of the limbs, more especially of the muscles, as respects their nutrition and irritability. In varus, the bone above all others whose condition is important is the astragalus—its position in the ankle joint and the shape of its head require close attention—although a small degree of atrophy in this portion of the bone is not an absolute bar to perfect restoration, its reduction to a mere tubercle is a very serious impediment. Speaking generally, the prognosis is hopeful, no degree of muscular contraction or distortion negatives an entire restoration of the shape and function of the limb. If the muscles be completely paralysed of course little hope can be entertained of a restoration of the power, but no decided opinion should be pronounced until their excitability shall have been tested by Faradization after the manner of Duchenne.

In the two concluding chapters the author treats of deformities of the leg—viz., knock-knee, or genu valgum, bow-leg, or genu extrorsum, and crooked shins. His method of treatment consists of substituting an active resilient force for the inelastic strap and inflexible splint hitherto in use, and “is founded upon the idea of bending a straight piece of elastic steel to the same degree as the abnormal curve of the limb, and fastening it thus bent to the leg, and then removing the retaining power, so that the tendency of the spring to become straight may exert a certain and a plastic force upon the abnormal curve of the limb.” A drawing of the apparatus is given and its mode of adjustment described; however, as we have already exceeded our limits we cannot do more than recommend the book itself for the necessary information respecting all the details of Mr. Barwell’s appliances, and his manner of fixing them in these and the other deformities of the lower extremities.

Our readers are now furnished, as we believe, with the pith of Mr. Barwell’s *brochure*. We hesitate to pronounce an opinion

concerning an innovation of which we have no practical knowledge, and which has yet to be tested by a more extensive experience before its merits can be duly estimated, accordingly our notice is entirely analytical. We have derived much pleasure and some fresh views from a perusal of the treatise, and confess ourselves well-nigh converted to the pathological principles so earnestly enforced by the author. Practical surgeons there be who are of opinion that tenotomy has fully reached, if not exceeded its legitimate limits; and certain it is that very grave deformities can be cured without tenotomy; as to whether the operation can always be dispensed with is another question. The appearance of Mr. Barwell's treatise is opportune—his opinions must have weight with all impartial practitioners, and may lead to a thorough ventilation of the entire domain of orthopedic practice, which, perhaps, has remained too long in the possession of specialists.

The "tendon-cutters" (as our author irreverently styles them) get some heavy knocks, and he must be content to receive retaliation. He has flung the gauntlet among numerous and powerful adversaries, and cannot shirk the consequences.

Within our memory orthopedic science has advanced with rapid strides, and proudly points to brilliant achievements. She is now challenged to relinquish her conquests—extreme views are seldom just—sooner or later time and experience discover the "mean" and indite its formula. As impartial journalists our present position is neutral; we abide our time until we can discern more distinctly the relative position and strength of the combatants; no matter how the contest terminates truth is sure to carry off her laurels.

Royal Commission on the Sanitary State of the Army in India; Report of the Commissioners; Précis of Evidence; Minutes of Evidence; Addenda; Appendix. Two vols. Blue Book, folio.

IN the volumes now before us will be found the results arrived at by the Commission of Inquiry into the Sanitary State of the Indian Army, appointed by the late Lord Herbert. No monument of this great and good statesman more worthily speaks to his true character as the wisest friend the army of any country ever possessed. Undazzled by the splendid achievements of the national arms, he penetrated, with searching eye, to the real basis of an army's strength—its status of health and disease.

The health of an individual man is ever a fluctuating quantity, even under the best climatic and hygienic conditions. The health of an aggregate of men, constituting an army, is subject to still more constant and profound disturbances, the contact of man reacting upon man deleteriously in many respects, while advantageously in others.

This inherent defect in man, as a working or a fighting machine, in the individual or in the aggregate, has doubtless been matter of account with the statesman and the commander at all times in the history of civilized war. Generally regarded, however, as an unavoidable concomitant of man in his correlative capacity, few have sought to estimate the *normal* or *necessary* as distinguished from the actual mortality of armies from disease. In prodigal expenditure of human life the Alexanders, the Cæsars, and the Napoleons have rivalled each other, looking mainly to the ends to be accomplished at such and such probable sacrifice of life to the sword of the enemy, but little heeding that more powerfully destructive agency, death in the ranks, from disease pursuing its course silently, but not less surely. And yet it may be affirmed that in no considerable campaign which the world has ever seen, have the deaths in the armies engaged been meted out in like proportions by disease, and by the most fatal engines of destruction hitherto conceived.

The state of health, and the sanitary condition generally, of the British army appears to have deeply engaged Lord Herbert's attention, from the period of the Crimean war especially. The anomalous and excessive mortality in the troops on home stations was the opprobrium of the service. A vast expenditure of money, special conditions observed in the selection of recruits for the army, and the various resources of the service applied to their care and maintenance, only resulted in a state of health and a rate of mortality in extraordinary excess as compared to that of males from amongst the general population at the soldier's age, to that of men in special branches of public employment, and in healthy and agricultural districts. The following is Lord Herbert's estimate, from official data:—

"Deaths per 1,000 Men Yearly, at the Soldier's Ages.

London Fire Brigade,	. . .	7·0
Metropolitan Police,	. . .	7·6
Navy on Home Stations,	. . .	8·8
City Police,		8·9

—Average, 8·1.

Healthy districts, . . .	7·7
Agricultural labourers, . . .	8·0
All England, . . .	9·2
Large towns, . . .	12·0
—Average, 9·2.	

Household Cavalry, . . .	11·0
Dragoon Guards, . . .	13·3
Infantry of the Line, . . .	18·7
Foot Guards, . . .	20·4
—Average, 15·9.	

The mortality of the British Guards, amongst the finest troops in the world, selected, fed, clothed, and lodged at almost unparalleled expense, was actually twice and a-half that of Hodge, the agricultural labourer!

Sir George Lewis, in moving the Army Estimates, in the Session of 1862, stated various details showing the amendments that had been effected in the sanitary state of the British army at home; and these results, it is but just to add, are attributable, almost exclusively, to the initiatory efforts of Lord Herbert.

Miss Nightingale states:—"The mortality of the infantry serving at home has been reduced from 18 per 1,000 to 8·5, and is now *actually less* than that of the English male population at the soldier's ages, instead of being double, as it formerly was."

In Sir George Lewis' estimate the improvements effected amount to an annual saving, if extended to the whole British army, of 2,200 men—more than the complete establishment of two regiments. This result is equivalent to an addition of five regiments to the army, and would effect, if continued, an annual saving of half a million. In contrasting the ten years, from 1836 to 1846, with the years 1859 and 1860, Sir George Lewis says the deaths in the Household Troops had been reduced from 14 to 6 per 1,000; in the cavalry of the line, from 15 to 7 per 1,000; in the artillery, from 15 to 6; in the Foot Guards, from 21 to 9; and in the infantry, from 18 to 9. At Gibraltar, the mortality had fallen from 13 to 9; at Malta, from 18 to 14; in the Ionian Islands, from 16 to 10; in Canada, from 17 to 10; at Bermuda, from 35 to 11; in Jamaica, from 60 to 17; and in Ceylon, from 39 to 27.

When thus much had been accomplished for the Queen's troops, time it surely was that the state of the Indian force should be fully inquired into, its sanitary state fully investigated, and similar

remedies applied to raise it, in point of effective hygienic status, to a level somewhat similar to that to which the other branch of the service had been brought.

It was long known that Indian service was attended with a high rate of mortality; but with many this was taken as a necessary consequence of the new climatic and other conditions, to which the soldier became exposed on landing in India.

By all but a few enlightened men it was believed that if we were to retain our rule in India it must be at the sacrifice of large numbers, not alone to the sword of the Maharatta or the Sikh, but to the fell influences of climate. To few, indeed, was it known how tremendous was this sacrifice—greater than ever idolator conceived should be immolated to the manes of Juggernaut. To still fewer, if, indeed, to any, in its fullest sense, was it at all known that the sacrifice was as vain as unnecessary, and as heinous a waste of human life in the one case as the other. And yet such are the revelations which Lord Herbert's commission discloses to us. If we stand aghast at a sacrifice of 21 per 1,000 amongst the chosen troops of England in the barracks of the Guards, what shall we say to a mortality which is proved to have swept off 69 out of every 1,000 men in several stations of the British army in India?

And here it will be necessary to follow, somewhat in detail, the steps of the inquiry held by the Indian Sanitary Commission. In the words of the Commission:—

“The inquiry in which we have been engaged has been one of unusual extent and duration, and, from its nature, has led to considerable delay in preparing our Report. We had, in the first place, to lay the foundation of our inquiry by an elaborate examination of the available statistical and sanitary documents in the India House. In doing so it was found, at the very beginning, that we could not arrive at our object by taking oral evidence only, and that it would be necessary to carry out a preliminary local inquiry at all the Indian stations before a true estimate could be formed of what were the real conditions of the problem with which we had to deal. With this view a series of printed questions was drawn up, and sent to all the stations, to be there replied to, and signed concurrently by the commanding, engineering, and medical officers. We had to await the results of this part of the inquiry; and as on some important statistical points the replies from two Presidencies were incomplete, we called for further information, which has not yet been received by us. This, together with other engagements of members of the Commission, has led to considerable, but unavoidable, delay, which we are grieved to say has

been increased by losses which the Commission has sustained since its first meeting. The late Lord Herbert, who was our first chairman, was compelled by official occupation, and latterly by declining health, to suspend the meetings for some time. Previous to that period Sir Robert Vivian had been obliged by his other duties to resign as a member of the Commission; and we had further to deplore the death of Mr. Alexander, the late Director-General of the Army Medical Department. To supply these losses, Dr. Gibson, the present Director-General, and Colonel Durand, since called to India, were added to the Commission, and Lord Stanley consented to succeed Lord Herbert as chairman."

The strength of the British army, on the 1st April, 1861, was 227,005, officers and men; of these numbers 82,156 were in India at that date; but in the previous year the troops in India were 94,829. Four regiments out of eleven were serving in India; and if this proportion were maintained, and every regiment to go in turn, it will be exposed 10 years in every $27\frac{1}{2}$, or 4 years in 11, to the influences of Indian climate and service.

After sketching the territorial distribution of the troops in the Indian provinces, the Report proceeds to consider the mortality, which the evidence shows to have reached a figure of appalling proportion. Thus, in summing up the results of this portion of their statistical labours, the conclusion is arrived at, that "in the 57 years—1800–56—in all the Company's non-commissioned officers and men, including invalids in India, the deaths amounted to 40,420, out of an aggregate of 588,820 years of life, obtained by adding up the average annual strength in these years; so the annual rate of mortality has been 69 in 1,000 during the present century." As the period included in these observations embraces the Maharatta, the Pindaree, the Burmese, the Affghan, the Scinde, the Sutlej, the Punjab, and the Chinese campaigns, it would naturally be concluded that death in the field entered for a large share in this surprising mortality. The researches of Sir Alexander Tulloch, however, conclusively show that while from 1817 to 1855, inclusive, the mortality was 70 per 1,000, not more than 10 of the 70 annual deaths per 1,000 were assignable to the weapons of the enemy.

The mortality, it is quite true, has not been constantly that now stated. Thus, in 1770–99 it appears to have been as low as 55 per 1,000; in 1852 it was down to 41 per 1,000; but, per contra, in 1804 it was as high as 134 per 1,000!!! for the period 1800–29 it was 85 per 1,000!! from 1830 to 1856 it fell

to 58 per 1,000. The Commissioners conclude that since the first occupation of the country by the English troops the mortality has oscillated round 69 per 1,000. Let us bear in mind that the Indian soldier is a picked man; and even though exposed to unfavourable climatic influences, he is in other respects cared for as no average man of our home population is. Yet in the most unhealthy town districts of England the average mortality is but 12 per 1,000, and this in the unhealthiest trades; while the general mortality of man at the soldier's age, in the healthy parts of England and Wales, is but 8 per 1,000.

If, then, we deduct 10 per 1,000 for the deaths by the weapons of the enemy, and further, say, 10 per 1,000 as the average of those who would be removed by natural deaths, we have yet 49 deaths per 1,000 of the troops serving in India (taking the average of 69 deaths per 1,000 over a series of years) to account for. Does the climate of India imperatively demand a sacrifice of 50 men out of every 1,000 whom we land upon its territories? Are we to regard this as the human tax levied upon the flower of our male population by an insatiable Atys, as the price of England's tenure of the heritage of the Hindoo and the followers of Bramah? Is one out of every 20 picked men whom we send to India, at infinite cost, to be sacrificed within the year; and this over and above the quota of him that is to be slain by the enemy, and him likewise who is to fall by the same death-chance as would overtake him at home?

Dr. Farr puts the result in a still more startling point of view. The mean after-lifetime, or, as it is sometimes called, the expectation of life in India at the age of 20 is but 17·7 years, while in England it is 39·5 years; thus life is shortened by 21·8 years. The annuity on a soldier's life in India, at the age of 20, is worth but 12 years' purchase; the same individual at home could secure 10 years' additional purchase-money. The after-lifetime at the age of 40 is 15 years by the Indian table, 22 years by the table of Indian pensioners resident for the greater part in England, and 26 years by the English life table.

In all these points of view we see that life is wasted to an unparalleled extent in India. That this need not be so the Report before us furnishes abundant and conclusive evidence. Perhaps in no respect are received opinion and fact more in opposition than as to the effect of acclimation on the soldier's health and the mortality of troops. It was very generally held, and is still believed by many, that the constitution of the European becomes year by year more

and more inured to the deleterious influences of climate, and more able to resist its fatal effects.

The diseases of India which prove so destructive to the British soldier are fevers, dysenteries, diseases of the liver, and cholera—"the fevers" and "the fluxes" of the older authors—with the addition of maladies of the liver.

Of the extent to which fever prevails some idea may be formed from the evidence of Sir Ranald Martin, who states that out of a British force of 25,431 men serving for eight and ten years in Calcutta, Chinsurah, and Berhampore, all in Bengal Proper, 13,596 cases of fever occurred; in the upper provinces of the same Presidency, usually regarded as healthier, and with diseases of less severity, out of an average of 23,731 men, serving there during seven years, there were 14,159 cases of fever. The same authority estimates that, throughout India, 50 per cent. of all the admissions into hospital are due to fevers; and that in the Presidency of Bombay 40 per cent. of the total deaths amongst persons of all classes, castes, and countries are due to fever. Dysentery plays the next most important part; and out of a force of 25,433 men in the Bengal district, there occurred 8,499 cases of this disease. Again, in the Madras Presidency, "out of an aggregate British force of 82,342 men, serving there from 1842 to 1848, there occurred 10,531 cases of dysentery, and 9,189 cases of diarrhea, making a total of 19,720 cases of bowel disease, exclusive of cholera." It is important to note that Sir R. Martin states that 11 cases of dysentery occur in the British troops for one amongst the native soldiery. It is to be regretted that we find no reliable pathological data for determining the nature of the affection so extremely prevalent under the head of diarrhea. Anatomical details and the true pathological significance of this affection are a great desideratum. The results of the Pathological Commission of Inquiry in the Crimea show us that in numerous instances cases returned as "diarrhea" proved, on *post mortem* examination, to be the result of the enteric lesion of typhoid fever.

It is in India alone that hepatic disease rises to numerical importance. Still following the evidence of Sir R. Martin, we learn that of an aggregate force of 211,993 men, serving in Bengal from 1812 to 1832, there were 14,015 admissions into hospital for affections of the liver, of which 924 died; and again, from 1833 to 1854, in an aggregate force of 331,775 men, in the same Presidency, there were 18,765 admissions under the head of liver disease, with

1,345 deaths. Out of every 100 deaths of Europeans in the Bombay Presidency, between 1830 and 1846, the deaths from the four great epidemic diseases were as follows:—

Fevers, ...	23·054
Dysentery and diarrhea, ...	32·441
Diseases of the liver, ...	9·597
Cholera, ...	10·320

Amongst local diseases apoplexy is recorded as the most fatal—three deaths per 1,000. But more special details seem to us to be a-wanting in regard to this and other cerebral diseases. Deaths by wounds in India, many will be surprised to learn, average less than the deaths by violence amongst the civil population in England! being 0·8 per 1,000 in the former case, 1·0 per 1,000 in the latter. Out of 9,467 men dying amongst regiments in India, prior to the mutiny, only 586 were killed in action or died of wounds. All evidence goes to show that the mortality in India is chiefly due to disease, and in but small degree comparatively to the arms of the enemy.

But it is not by the death-rate alone that we can estimate the full effects of disease in putting *hors de combat* a large proportion of the British army. Experience at home would seem to show that 1,000 soldiers will furnish on the average 1,000 cases of sickness per annum, or only one case per annum per man. In India this is more than doubled. Thus, from a return furnished by Dr. Balfour, it appears that 16,850 troops of the line in Bengal furnished the hospital with 172,388 cases of disease in the five years 1850–4, with a mortality of 4,461. A battalion of 1,000 sent annually 2,045 cases to hospital. Of the cases just cited 75,535 were fevers, with 918 deaths; and 32,771 were cases of disease of the stomach, liver, and bowels, of which 2,517 were fatal.

An illustrative table shows that on an average, in the stations of Bengal, 84 men out of a battalion of 1,000 were constantly in hospital; of these 69 die annually.

“With this amount of sickness,” remark the Commissioners, “an army of 70,000 British in India has, so to speak, a vast hospital of 5,880 beds constantly full of sick, and loses yearly by death 4,830 men, or nearly five regiments.”

In a financial point of view the sickness and mortality of the British army in India constitute a subject of vast moment. The military expenses of India for the years 1856–57, after deducting

for the local civil corps, are given at £13,156,473! with a total of about 54,125 troops in the pay of the Indian Government; and it is assumed that the cost of the soldier is £100 a-year. As the cost of the sick is not less than that of the effective soldier, we have an item of £588,000 per annum for the sick of the Indian army; and, deducting £200,000 for 2,000 supposed to be cases of inevitable sickness, the Report assigns £388,000 per year as the cost of preventable disease amongst the troops on Indian service, which, in ten years, at compound interest, would reach an enormous sum.

The average mortality amongst the troops at home may be now taken as 9 per 1,000; in India it is in the astonishing proportion of 69 out of every 1,000 men.

Out of 73,000 men it is found that 5,880, nearly *one-twelfth*, are constantly in hospital, equivalent to a permanent subtraction from the force of the Indian army of *six* regiments out of 70; while it is further shown that nearly always *one-third* of the army is labouring under syphilis in some form, and cannot be considered as fully effective or *enduring* troops; and it would be difficult to calculate what ultimate loss to the service is entailed as the consequence of this disease.

To take another and striking view of the question: to maintain the Indian service at par—taking its average strength at 80,000 men—as to the number and efficiency of its troops, we require an annual export of 10,000 recruits, of which at least half go to replace those who have died in the year, and almost as many more to take the places of those sick in hospital.

Two per cent. is assumed by the Report as the highest necessary mortality in India, while it is now all but seven per cent.; and one-twentieth, it may be assumed, of the troops in India die of preventable disease!

While the mortality of the men is at 69 per 1,000, that of the officers is 38, and of the civil servants 20. The rate for Company's officers has varied from 31 in the Bengal Presidency to 39 in Bombay, and 45 in Madras. That for the officers of the Royal army has been 34 in Bengal, 33 in Bombay, and 36 in Madras.

In the 20 years, 1814–1833, the East India Company had serving in India 4,219 officers, amongst whom 3,194 deaths occurred, or at the annual rate of 38 per 1,000. The Royal army had, in the same period, 1,079 officers, amongst whom the deaths were 742, and the annual mortality 34 per 1,000. Of 3,936 officers who died, 1,060 would, in all probability, have died at home, and but 122 were killed

or died of wounds; consequently twenty times as many died of disease as of wounds, which they would not have, in all probability, encountered at home.

The insalubrity of Indian life becomes a financial loss to the officers in regard to life insurance; at the age of 30 the annual premium to insure £100 at death is, in England, £2 4s. 10d., for the officer on Indian service, £4.

In striking contrast with the mortality of European troops is that of the native soldiery. Colonel Sykes concludes the mortality of the native troops in the three Presidencies to be at the rate of 18 per 1,000, the ages of the men ranging from 18 to 45. The ascertained mortality in Bombay was 13; in Bengal, 18; and in Madras, 21 per 1,000. The Report assumes a general mortality for native troops of 20 per 1,000. The diseases which prove fatal amongst the native troops are the same as those which decimate the Europeans, viz., fevers, dysentery, cholera. Of the less important diseases, syphilis is greatly inferior, as a cause of admission to hospital, in the native as compared with the European troops; thus the former supply but 23 per 1,000, while the latter furnish 192 per 1,000 admissions from syphilis.

While the mortality of the native troops is 20 per 1,000 as an average, it is less than 10 in healthy stations. It is worthy of note that the native's chances of life are improved by the service, while those of the European are diminished. Thus, though census returns and the registration of deaths are but in a very incomplete state with regard to the native population generally, there seems good reason to believe that the death-rate is extremely high. Dr. Strong has shown that amongst the natives of all ages the mortality was at the rate of 51 per 1,000—the Hindoos dying at the rate of 57, the Mussulmans at the rate of 35 per 1,000. The mortality fluctuated in 11 years from 37 to 81.

The native soldier is, we are informed, usually married; lives in his own hut, constructed at a cost of a couple of rupees; has the advantages of family association, and, as a rule, never tastes meat, fish, or spirits, and lives almost exclusively upon unleavened cakes of wheat-flour, daily baked in an iron dish, and washed down with water; further, he constantly sleeps outside his hut.

A glance at the varying returns from different stations will be of interest. Trichinopoly, in Southern India, may be regarded as the hottest station. The mean temperature of the latitude, according to Mr. Glaisher (whose services the Commissioners secured to discuss

their meteorological data), is 82° , the sun being nearly vertical in winter; 41 out of 81 deaths in the 84th Regiment, at this station, were due to zymotic disease. The mortality per 1,000 was 44 for 19 years, 31 for 11 years, and 20 for the 4 years 1850-3. On the Malabar coast, with a rain-fall of 140 inches, the mortality was 21 per 1,000; at Bangalore the cavalry died at the rate of 17, the infantry at the rate of 24 per 1,000. At Belgaum the mortality has varied from 41 to 19 per 1,000; at Kirkee, above Bombay, from 19 to 6; at Poona, a town of 8,000 inhabitants, from 34 to 6; at Deesa, from 26 to 20. Stations in the vicinity of large cities are invariably unhealthy, and the mortality is certain to be found above 20 per 1,000. At Hyderabad, a regiment 753 strong, died at the rate of 64 per 1,000 annually; in one year, it is stated, *a third of the force perished*; and in 30 years (1804-33) the deaths, chiefly by dysentery, amounted to 1,435. The barracks in an unhealthy locality—Secunderabad—were rebuilt on the same sites, and the mortality continued as high as 37 per 1,000 in the years 1837-58; and in this last year it is stated 104 of the First Royals died, out of a strength of 1,098! The officers lived in detached bungalows, and their death-rate rarely exceeded 20 per 1,000. For a period of 23 years the mortality at Bombay and Calabar is given at the rate of 63 per 1,000. But it is at the stations on the Ganges we must look for the highest rate of mortality. The death-rate amongst the infantry at Fort William was at the rate of 102 per 1,000! while at Dum-Dum the mortality was 77 per 1,000, and at Chinsurah 54 to 70. For 22 years the mortality at Dinapore was 78; at Cawnpore it was 91 per 1,000 for seven years.

The history of the 29th Regiment in the most conclusive manner proves the case of disease *versus* war, and its unquestionable superiority as an agent in destroying life:—

“The 29th Regiment of Foot arrived in India on July 29th, 1842, and it was stationed at Chinsurah, where it lost 106 men before April 1st, 1843. Proceeding to Ghazepore, it lost 158 men, and 260 men respectively in each of the next two years. Its valour was not extinguished by disease, for 141 of the men were killed and died of their wounds in the Sutlej campaign, and 48 in the Punjab campaign. These terrific losses were, however, exceeded at Chinsurah and Ghazepore before it had seen the enemy. This was one of the regiments that brought discredit on Kussowlie. It lost 1,061 men by death in India before it embarked for England, on September 30, 1859. The mean rate of mortality during

the 17 years was 95, or, exclusive of those killed and those who died of wounds, 86 in 1,000!!!”

At Lahore the mortality was at the rate of 81 per 1,000 for infantry, 56 for cavalry; at Ferozepore, 80 per 1,000 for cavalry, 56 for infantry. In Peshawur the mortality was 61 per 1,000 of the mean strength.

The Report sums up the evidence on this part of the inquiry as follows:—

“1. The English troops in India, by the returns of 1861, consisted of 8,324 officers and 76,684 non-commissioned officers and men, making in the aggregate an army of 85,008 men. The annual expenditure on the army of India has been at the rate of £100 a man.

“2. The mortality of the officers in India has hitherto been at the rate of 38 men per 1,000, which is 28 higher than the English rate of mortality. Of the sickness there are no returns, but it is admittedly as excessive as the mortality.

“3. The mortality of the non-commissioned officers and men during a long series of years has fluctuated, and has been, on an average, at the rate of 69 per 1,000. The mortality of men in England, at the soldier's age, is at the rate of 9 in 1,000. Sixty in every 1,000 men were killed annually in India by the causes then in operation—the numbers slain in battle being few compared with the deaths from fevers, dysentery, liver disease, and cholera. About 84 per 1,000 men were constantly inefficient and in hospital from the sickness induced by thousands of attacks of disease, including a large proportion of venereal cases.

“4. The excess which has hitherto been observed in the mortality of India is in every station due to nearly the same zymotic diseases. These diseases were for centuries equally fatal in the cities of Europe. In Europe they are still prevalent under the same circumstances, and they are generally most fatal in the summer, when the sun is not so hot as in India, but is above the horizon a greater number of hours.

“5. The experience of the civil service, of the military officers, of their wives and children, of the English troops in many stations, and of the native troops, proves that in the present state of India the mortality of the English troops there can be reduced to the rate of 20 in 1,000.

Next to the question of topography and climate, recruiting, and the influence of the passage out to India, the duties of the soldier, and the subject of acclimation, on all which the amplest details are furnished, the *causes of disease* are considered.

Some of the great agencies operating in the production of disease in India are, doubtless, irremediable. Such are the meteorological

conditions of heat, direct sun action, winds, &c.; others, such as are concerned with natural or artificial irrigation, with the development of marsh miasmata, admit of remedy only by the adoption of engineering works of vast extent and immense cost. Sir R. Martin states that, "taking any one cause, he should say that the union of heat, moisture, and malaria constitutes the most powerful one in destroying the European soldier's health, and conducing to his fall by disease;" and he believes that "a certain amount of destruction and deterioration of European health must result from a residence at the stations on the plains, even if the soldiers were put into palaces." Drs. Colvin Smith and M'Lennon concur in regarding climatic influences, intemperance, and sexual disease as the most potent agencies in producing sickness and mortality amongst the troops in India.

A careful examination of the vast body of evidence, with regard to the sanitary state of the various stations, towns, and bazaars, the habits of the troops themselves, and of the native soldiers and population must, we conceive, convince the unprejudiced inquirer that the causes of the sickness and mortality of the troops, both native and European, and of the native population generally, in the vast majority of instances, are of a remediable kind; and that in this, as in so many other instances, neglect of sanitary laws is followed by the scourge of epidemic and endemic disease.

The second volume issued by the Commissioners comprises a mass of evidence, in the shape of reports from the individual stations of the British army in India, abounding in details of the most exhaustive character. It is the *post mortem* of India—in documents of incontrovertible authority, signed by the commanding, medical and engineering officers of the several stations. In several instances we find further special reports, by individual medical officers of particular districts, remarkable, in more than one instance, for most able statements and enlightened views.

In a succinct recapitulation the Commissioners condense the results of their general inquiries—the substance of which may be given as follows:—

The great diseases of India which produce the extraordinary mortality, sickness, and inefficiency of the troops, are, fever, dysentery, cholera, and diseases of the liver. They are, in great part, attributable to malaria, in conjunction with extremes and variability of temperature and moisture; but, likewise, to the insalubrious condition of the stations; ill-placed and ill-constructed

barracks and hospitals; total disregard, in the majority of cases, of all attention to sewerage, ventilation, removal of offal and refuse; and to the habits of the men themselves—excess in eating of animal food and intemperance, as well as sexual indulgence, and the relaxation of mind and body consequent on the idle hours which hang so heavily on the soldiers' hands in India, and are thus a prolific source of evil in all forms.

Many of the stations are low, damp, unwholesome, on river banks, and, often, close to towns or native bazaars, in the most shocking state of filth. These towns and bazaars in the vicinity of the lines are, by numerous authorities, described as being in the most horrible sanitary state—undrained, unpaved, ill-cleaned; often teeming with the foulest and most dangerous nuisances. Tanks, pools, and badly-constructed surface-gutters, containing ordure of all kinds and foul water; the houses or huts, built with no regard to order or regularity, and wholly devoid of the commonest appliances for decency; the houses ill-ventilated and over-crowded; no public or private latrines; and the ground on the surface, or in shallow pits, covered with human excreta, and refuse of all kinds. Cholera takes its origin in these towns and bazaars constantly, and then extends to the European lines. Subsoil drainage is unknown; and the rainfall—often of extraordinary amount—fills the pits and hollows with foul, stagnant water. Barracks and hospitals are, in general, built close to the ground, and the men are thus exposed directly to the noxious effluvia and damp from the earth. The ventilation is either excessive or defective. Over-crowding is common in barracks and hospitals; and the space and area per bed are much too small in general. Wooden shutters too often take the place of glazed windows; and the rooms and wards are, consequently, either in darkness or exposed to injurious drafts.

Four, and even six, rows of beds are often found ranged between opposite doors and windows. Barracks of great longitudinal extent exist, with rooms some hundreds of feet in length, and, it is said, occasionally containing from quarter to half a regiment each.

The water supply has, in general, been taken from sources which have not been analysed, and which, indeed, in some remarkable cases, required no analysis to ensure their condemnation, so manifest were the impurities. In one case the body of a Hindoo was found in a tank. In numerous instances the water sources are exposed to constant contamination from the surface drainage—

polluted by latrines or foul refuse, lying above ground in a state of putrefaction. "The stench is at times overpowering," say the abstracts; "the ground, for miles about, one immense privy." Water is occasionally brought in skins; but there is no provision for purifying or filtering the supply for drinking, culinary, or other purposes. The question of water supply the Commissioners indicate as "a cardinal defect" at the Indian stations. Accommodation for personal ablution and baths is of the most scanty kind, and is often not provided at all.

The privies and urinals are of bad construction; the contents are removed by hand, by native carriers, often producing great nuisance. There is no drainage to privies, urinals, ablution-rooms, or cook-houses—all is carried away by hand. The cook-houses are imperfect and bad, though the natural talent of the native, as a cooking animal, makes up, to a considerable degree for these deficiencies; at least complaints are not made of the cooking, though we believe, in many important respects, it is not free from objection.

The hospitals are little or no better than the barracks; they are defective in ventilation, bath and ablution accommodation, latrines and urinals, drainage and water supply; there are no trained attendants for the sick; the bedsteads are too often of wood, and the mattresses not of hair, of which alone they should be made.

The rations of the soldier are good as to quality, but we think in point of quantity, and want of variety, they are open to grave objections; no difference is made for the hot or cold season; there is too much animal food, and too little vegetable; and mutton is not a sufficiently constant element of the food. In hospitals the want of a dining-room for convalescents is much felt; the present system of patients taking their meals in bed on their knees, and, perhaps, in close proximity to a dying man, is highly objectionable.

Flannel is recommended for under-clothing; and in a country so liable to vicissitudes of temperature and moisture, its use would be attended with the best results. Complaint is made as to the system of supplying the soldier with boots.

All evidence goes to show that the use of spirits is injurious to the soldier; it injures him in body and mind, promotes other excesses, and is a cause of the spread of syphilis. We do not think the report deals with the subject as boldly as it should, nor are its reprehensions at all commensurate with the extent of the evil which intemperance entails. Spirits are sold in the canteens under

certain regulations; and this practice is kept up on grounds, not one of which bears a moment's thorough examination. It is urged that if the soldier did not get good spirits at the canteen he would be induced to go to the bazaar for bad. If this be true in some instances, it is no less true that the use of raw undiluted stimulants causes a craving for more; and the man who, perhaps, would not have thought of it unless his appetite were excited by the authorised dram, ends intoxicated in the bazaar. Yet complete, is far easier than partial, abstinence. That the men profit indirectly by the gains of the sale of spirits in the canteens, is no argument whatever in favour of the system. We should gladly see the total suppression of the issue of a spirit ration, except under special circumstances of night exposure, and by the direct recommendation of the medical officer. If sold in the canteens at all it should be in a diluted form, never as a raw dram. In the recommendation of the *moderate* use of malt liquors and light wines we entirely concur. But there is evidence of the most unquestionable character on record to show that the over-indulgence in rich malt drinks, especially porter, produces a soft, morbid, plethoric condition of the system, unfavourable to the maintenance of hardy and vigorous health, and causing the patient, when attacked by disease, to succumb readily to its influence. The use of sound light wines we are disposed to think would be attended with great benefit; and while on this topic it occurs to us to suggest the possibility of the culture of the vine being carried out in India with success. Within such ranges of latitude and temperature, it admits of hope that suitable localities may be found for the growth of a good and productive grape, and the manufacture of a light, but sound and wholesome wine.

The facilities for recreation are few, while the means of exercise and instruction are too limited. The soldier's habits become sedentary; in consequence of the heat he is restricted from going out of doors at mid-day, and dawdles about the common sleeping room, or soaks on his bed; his life is one of sameness, weariness, and *ennui*. Is it to be wondered at, that without even the employment of attending to his own wants—for his dinner is cooked and served for him by natives, and the punkah to ventilate his barrack-room is worked by natives—he falls into evil habits of mind and body, and when his time for going out arrives he seeks the bazaar or the canteen, and becomes the victim of syphilis or delirium tremens.

There is a total want of any means of bringing the influence of

men trained in sanitary knowledge to bear in the prevention of disease; there is no sanitary administration; and so far from barracks and hospitals being built on sound sanitary principles, their construction is often in direct violation of all the known laws of sanitary economy.

Hill stations have been a long time in use, and not without advantage to the troops there stationed or removed thereto for the benefit of health. It is almost incredible, however, with what little judgment many of these stations have been selected, and in what an insalubrious condition they have been allowed to remain; and in many of them serious disease and mortality have been the consequence. Sir John Laurence states that he saw cholera raging there "in a magnificent climate, a beautiful site, and fine barracks; and there was nobody else sick but the soldiers." Out of 254 men in barracks, 42 were attacked, of whom 21 died with cholera; no officer suffered; and it is only to be concluded that the men were exposed to causes operating exclusively on them.

At Landour, 7,000 feet above the level of the sea, the mortality was, for 10 years, after excluding the invalids, at the rate of 61 in 1,000.

The general conclusion, however, is in favour of hill stations; but, for strategic reasons, Sir John Laurence and Sir Charles Trevelyan concur in thinking that not more than a third of the Indian forces should be so located. Alternation of service would enable the entire force, however, to benefit by the change from the plains to the hills. Stations on the plains and slopes of India up to 1,500 feet, and on the elevated coasts are shown by the evidence, to be salubrious; but they cannot continue so if the sanitary arrangements of the troops and attendant native population who always follow in their wake, be neglected, or left to the choice of the men.

In considering the various questions which arise on the perusal of these volumes it will require little argument to show that the first great steps in sanitary reform in India must commence in the stations. In the local reports we have laid bare a state of things which, in the most temperate climates of Europe, would necessarily generate a never-failing supply of endemic and epidemic disease. Our surprise must therefore be great, not that so much disease and mortality are found in India, but that the results are not of still more fatal character.

Sewerage, surface-drainage, ventilation, water-supply, means of

personal cleanliness, and a proper system of urinals and latrines, have to be inaugurated in almost every station of the British army in India. Besides which, sanitary control and the introduction of the appliances of civilized life have to be enforced on the native populations, which swarm in bazaars and villages in the neighbourhood of settlements of the British forces. Unless we have continually present to our minds the picture offered to us in the statistical reports of the foul condition of the camp, the barrack, and the attendant native bazaar, we shall fail to realise the crying necessity which exists for a radical sanitary reform in all that pertains to the life of the soldier in India.

It is not, however, in the remote plain or hill-side station that such reform is alone needed. Abundant evidence is furnished of the insalubrious condition of the great, central cities—the seats of former native power, and present British rule.

A special sanitary commission for each Presidency, with ample powers to enforce its recommendations, is demanded; and its institution should not be delayed. To each such Presidency commission we would desire to see attached men specially trained in sanitary science, and bringing, from Europe, the most recent knowledge in its several departments. At the central seat of Indian Government should be permanently located a Board of Supervision, having control over all the Presidential and stational sanitary operations; and comprising a general officer, selected for special acquaintance with sanitary subjects, a medical officer of highest rank, a military and a civil engineer, of equally high grade.

To ensure for India a participation in the active progression of European sanitary science it would be necessary that a constant and direct connexion should exist between the central sanitary authority in India and that which, we trust, will be, ere long, established at home.

To all enlightened men, and to all who become acquainted with the state of things which these volumes reveal, the conclusion is inevitable that the sanitary state of the army becomes a question of the highest national importance from every point of view in which it can be regarded, and in all steps of the scale—from the philanthropic to the financial. To some minds it will be not the least forcible argument that want of sanitary provision entails unnecessary diseases which, by sickness and mortality, cause an annual loss of nearly half-a-million sterling.

It is impossible in our present limits to do justice to the vast

body of evidence which the reports contain without extracts of great length; and few persons will, perhaps, have the moral courage and perseverance to face the perils and labour of volumes of nearly one thousand closely-printed pages each.

Fortunately the general reader is supplied with a most lucid summary of the entire evidence, with a running commentary, and incidental observations of the highest value, from the pen of Miss Nightingale, to whom the materials were submitted by the Commissioners before the publication of their report.

When in the history of the gifted and the good it shall be told to after times that in the same age the British army received the fostering care and occupied the combined labours of a Sidney Herbert and a Florence Nightingale, all shall exclaim—happy the time and the nation that witnessed such things and possessed such servants. Shall the age and the nation have worthily accomplished their work?

Medico-Chirurgical Transactions. Published by the Royal Medical and Chirurgical Society of London. Second Series. Vol. XXVII. London: Longman, 1862. 8vo, pp. 497.

THIS volume contains twenty-four papers. The first is by Dr. Robert Lee, *On the Discovery of the Original Obstetric Instruments of the Chamberlens*, and gives an interesting account of a visit Dr. Lee paid to Woodham Mortimer Hall, the estate, in Essex, purchased by Dr. Chamberlen, and to the tomb of Dr. Peter Chamberlen; but does not contain any new fact unknown to the readers of Dr. Churchill's *Essays on Operative Midwifery*. The second paper is *On Certain Grave Evils attending Tenotomy, and on a New Method of Curing Deformities of the Foot*, by Richard Barwell, and has since been expanded into a separate treatise, of which we give, at page 379, a full analysis. The next paper is a description of an unusual *Congenital Malformation of the Eyes in Three Children in One Family*, (irideremia totalis) or deficiency of the iris.

IV.—*Observations on the Division of the Gustatory Nerve, and on Ligature of the Lingual Artery in the Treatment of Cancer of the Tongue*, by C. Moore, Surgeon to the Middlesex hospital. This paper is written to recommend the division of the gustatory nerve as originally suggested by Mr. Hilton, in 1850, but

since forgotten or overlooked. The advantages Mr. Hilton looked for were as follows: of which the first three were obtained in the cases now recorded and lasted a month, but no ligature having been applied the fourth was not tested:—

“1. To destroy the sensibility of the ulcer, so as to enable the patient to take food.

“2. To reduce the flow of saliva, which was very distressing.

“3. In the hope that the pain experienced over the distribution of the fifth nerve might be immediately relieved.

“And, 4. To render the operation of sloughing off the diseased portion of the tongue by ligature void of pain.”

Mr. Moore has repeated the operation five times, and formed a high estimate of its value, and is convinced that much suffering would be alleviated if the safety and facility of the operation were more generally known. We extract his description of the indications for the operation, and of the mode of performing it, merely adding that at the publication of Mr. Hilton's original paper we convinced ourselves, on the dead subject, of the ease with which it could be done:—

“In deciding on the employment of this remedy, it is important to discriminate between the various sources of the pain in cancer of the tongue. There is the darting, electric pain in the tumour itself. There is the sensitiveness of the cancerous ulcer to all contact with the teeth, or with matters taken into the mouth. There is the suffering due to the ceaseless movements of this muscular organ, and to those of the jaw, when the tongue is adherent to it. There is the anguish occasioned by the encroachment of the disease upon the nerves, and sometimes by their ulceration and exposure. The parotid region, that of the ear, the temple, and the crown of the head, are sometimes as much complained of as the tongue itself, for the fifth nerve sympathises through many of its branches with the irritation of its gustatory portion. The glosso-pharyngeal and the sympathetic nerves have doubtless likewise their share of pain. At the same time the salivary glands, stimulated by the irritation of the fifth nerve, pour forth a copious and constant flow of saliva, which, in some cases, amounts to two pints or more in twenty-four hours, and by the expectoration of which the other pains are aggravated. Added to all this, there is often a train of painful symptoms connected with suppurations in the primary tumour, and with the growth, adhesions, softening, and ulceration of secondary glandular disease; besides the distress arising from the foetid state of the mouth, and the great and increasing debility of the patient.

“All these causes of the peculiar painfulness of cancer of the tongue may not exist together : in some rare instances there is, even during ulceration, no pain or salivation whatever. But when they do exist, their separate causes can be discriminated, and for some of them decided relief can be afforded. The symptoms which depend on the glosso-pharyngeal nerve can be distinguished from those attributable to the gustatory ; and, while no surgical remedy short of the extirpation of the root of the organ can be directly applied to the former nerve, the greatest relief and ease can be obtained for the fifth. Nothing is necessary but to sever the gustatory nerve between the disease and the brain. No sensation can then be conveyed along it from the tumour ; no reflective irritation can reach its collateral branches ; no stimulus to an exaggerated secretion can be given to the salivary glands. A patient, on whom this operation has been performed, should be relieved of pain in the tongue in front of the fauces, as well as in the jaw, temple, and crown of the head ; he should lose the incessant annoyance arising from the dribbling or expectoration of the saliva ; should speak more freely, and swallow with less difficulty, should sleep better, and be better nourished than before. And, so far as the gustatory nerve alone is concerned in the disease, all this is usually and strictly the fact. The glosso-pharyngeal, however, cannot be relieved by this operation, except as, indirectly, its pain ceases to be made worse by the salivation and consequent movement of the tongue.

“The feasibility of this plan for affording relief arises from the superficial position of the gustatory nerve. From the point at which it emerges from between the internal pterygoid muscle and the jaw to that at which it enters the tongue, the nerve is placed immediately beneath the mucous membrane of the mouth. In the hinder part of this sub-mucous course it lies between the last molar tooth and the anterior pillar of the fauces ; further forward it is beneath the floor of the mouth. Mr. Hilton, in his operation, sought for the nerve in the latter situation. The tongue being pressed away from the jaw, he made an incision along the mucous membrane thus exposed, found the nerve close to the sublingual gland, raised, and divided it. This operation is a sure one, inasmuch as the nerve is actually seen ; but he describes it as rendered tedious by the bleeding ; and it appears, further, to be inapplicable when the tongue is fixed to the jaw by adhesions of the tumour. There is a spot further back in the mouth, in which also the nerve is within reach, and where it can be divided even when the size of the tumour renders the operation in the floor of the mouth impracticable or inconvenient. The nerve, indeed, cannot be seen in the operation, but it may sometimes be felt, and can generally be easily reached.

“The guide to the nerve in the latter situation is the last molar tooth. On passing the finger into the mouth within and beyond that tooth, the bulging alveolar ridge can be felt, narrowing as it ascends into the thin

coronoid process. Behind, below, and parallel with the ridge, is the nerve. A line drawn inside the lower jaw, from the crown of the last molar tooth to the angle of the jaw would cross it at right angles about half an inch from the tooth. An incision, therefore, in the direction of such a line, three fourths of an inch in length, and carried through the mucous membrane to the inner surface of the bone, must divide the nerve. It is advisable to operate with a curved bistoury, since the alveolar ridge would shield the nerve from the edge of a straight knife. It is also advisable to be exact in observing the position of the alveolar ridge, or, in its absence, the edge of the toothless gum curving up to the ramus. In one of my earlier cases, in which there were no teeth to serve as a guide, I cut too far back, and missed the nerve, being probably misled by a mass of the tumour which was adherent to the inner side of the jaw."

Mr. Moore details three of the cases in which he divided the nerve, in all of which the relief from pain, and in two from the profuse salivation were remarkable; and in one of them he also tied the lingual artery, causing thereby a shrinking and diminution of the tumour that lasted for some time. The paper is one of great value.

V.—*A Case of Osteo-Malacia.* By Robert Barnes, M.D., &c. Dr. Barnes relates a case of this disease in a woman, aged forty, who had never been pregnant, and in connexion with the case discusses several points of interest and importance. The patient's original height was five feet eight, but when she came under Dr. Barnes' observation she only measured four feet eight. The disease commenced with pain in the back and limbs generally, pyrosis, vomiting, difficulty of walking, pain, and deformity. The urine was carefully examined at intervals, a point that has not hitherto been properly attended to, and it was found to contain, during the active stage of the disease, a large excess of urea, of alkaline, and earthy phosphates, and of extractives. It also, almost constantly, contained small quantities of sugar. The treatment adopted was, in the first instance, drachm doses of the syrup of the diphosphate of zinc and iron, and good diet, with wine; and under this she improved in some measure, but suffered much from sickness of stomach. At length she was placed on the use of cod-liver oil, ten minims of dilute hydrochloric acid being added to each dose of it to counteract the sickness of stomach—sedatives and anodynes being given at the same time to relieve the pains. Dr. Barnes adopted cod-liver oil treatment, in consequence of having read a paper by Dr.

Breslau, describing a case that had been benefited by it; and he found his own patient to be benefited by it also, as she rapidly regained strength, became able to walk, and in a short time resumed her domestic duties, and reported herself as restored to health.

In conclusion, Dr. Barnes considers the question whether there is a stage of this disease in which the bones of the pelvis preserve a yielding condition, and quotes several cases from Kilian and others proving that this is the case. In one of these the patient was on the operating table, to have the Cesarean section performed, when one of the consultants asked to be permitted to try to dilate the pelvis, and succeeded in getting in his hand, and in extracting a living child, by turning.

VI.—*On some Affections of the Cecal Portions of the Intestines with Illustrative Cases.* By F. G. Reed, M.D., &c., &c.—Four cases are narrated in this paper, referred to “accumulation or lodgment of the intestinal contents in the cecum, and commencement of the colon;” but it is not clear that this was their true nature. The fourth case is the most important, as in it an abscess formed in the right iliac region, which opened externally; and in a few days (two or three) it was discovered that feces escaped mixed with pus; and it was also found that pus and feces escaped by the bladder, showing that the intestine had been perforated, and that a communication had been established with the bladder. The opening into the bladder closed spontaneously, but a fecal fistula formed in the groin, and for this Sir Benjamin Brodie was consulted after the expiration of eight months, when he advised that the patient should have a couch made, so as to be *recumbent on her face day and night for several months*, have the edges of the wound touched occasionally with nitrate of silver, and take, night and morning, drachm doses of powdered cubebs, attending, at the same time, to the general health. The position, instead of being irksome, was found to afford great local relief and comfort from the diminution of the discharge; and, at the end of six months the discharge ceased entirely, and the wound was healed. For a few months subsequently the patient suffered occasional pain in the part, which was always relieved by the prone position; and at the end of twelve months she was quite recovered; and now, twelve years having elapsed, is perfectly well.

The prone position has, it appears, been found successful by Sir Benjamin Brodie, in other cases of cecal fistula; and it is stated by

Dr. Reed, that in all cases of rupture of the cecum, followed by abscess, which Sir Benjamin has had the opportunity of examining after death, the opening has been uniformly found at the posterior part of the intestine, and that it is because of this that he recommended the prone position.

VII and VIII.—*The Poisonous Effects of Coal Gas upon the Animal System.* By C. J. B. Aldis, M.D., &c.—A series of experiments, undertaken to ascertain the effects produced by different kinds of coal gas, with a view to directing attention to the precautions that should be used by gas-fitters and others exposed to gas, and to discovering the best means of treating persons asphyxiated by it. It was found that animals recovered more quickly from its effects when merely exposed to fresh atmospheric air, than when any other means were used.

IX.—*On the Temperature, Urea, Chloride of Sodium, and Urinary Water in Scarlet Fever; and on a Cycle of Disease and Health.* By Sydney Ringer, M.B., &c. This is a very elaborate paper, but the series of facts seems to be too limited to justify the deduction of general laws. No doubt the further pursuit of the investigation here entered on will be productive of good results, but we cannot attempt to analyze the paper, which is illustrated by tables and diagrams.

X.—*On Pulse-Breath.* By C. Radcliffe Hall, M.D., &c. By this term Dr. Hall means an audible pulsation communicated to the breath as it issues from the mouth by each beat of the heart. In some cardiac affections morbid sounds are often heard at a distance from the patient, but this is something different. The sound is that of a gentle gushing of the breath synchronous with each pulsation of the heart, and such as anyone may imitate voluntarily, so far as the character of the sound is concerned. Dr. Hall has heard it so loud that he could count the pulse by it at a distance of fifteen feet, and so subdued as to need listening close to the patient's face for its detection.

Two varieties of pulse-breath have been observed by Dr. Hall—pulmonary and cardiac. The first due to the impulse of the heart communicated directly to an empty pulmonic cavity; the second to an impulse conveyed through the blood vessels to the air cells and passages.

Dr. Hall believes this sound has not been described hitherto, and acknowledges that it has not any especial diagnostic or prognostic value, as when present the nature of the case is already sufficiently evident without it.

XI.—*On Brass-Founders' Ague.* By E. H. Greenhow, M.D. &c. This is a valuable contribution to our knowledge of the diseases affecting artizans. The disease resembles an imperfect paroxysm of true intermittent fever, but differs from ague in that the paroxysms occur at irregular periods, each being independent of those that precede or follow it, and distinctly traceable to exposure to the fumes of deflagrating zinc.

“These symptoms are a sense of malaise and weariness, or, as one very intelligent man termed it, *nervousness*; a feeling of constriction or tightness of the chest, and, in some rare cases, nausea commencing during the afternoon of a day employed in casting, followed towards evening, or at latest when getting into bed, by shivering, sometimes succeeded by an indistinct hot stage, but invariably by a very definite stage of profuse sweating. The sooner the latter follows the setting in of the cold stage, the shorter and milder is the attack, and the less likely is the caster to be incapacitated for work on the following day. Headache and vomiting frequently, but by no means always, accompany the attack, which, at the worst, is ephemeral, and rarely, if ever, prevents the caster from pursuing his occupation; but the attacks are, in some cases, of frequent occurrence, and men engaged in this employment are seldom long-lived, though the ailment which most evidently shortens their days is chronic bronchitis, or, as they term it, *asthma*. Persons who have but lately adopted the calling, or who only work at it occasionally, and regular casters who have been absent from work for a few days, are reported to be more liable to suffer from this disease than those who work at it continually.”

Dr. Greenhow proves conclusively that the disease arises from exposure to the fumes of the zinc used in manufacturing brass; some of the workmen believe that paralysis agitans is also produced by the same cause; but the evidence of this is not satisfactory. It is found that covering the mouth and nose, when exposed, is very effective as a preventive, and the workmen believe that the occasional use of emetics, and the drinking of milk are the best prophylactics; and that milk has curative properties.

XII.—*On the Connexion between a Local Affection of the Lymphatic System and Chylous Urine, with Remarks on the*

Pathology of the Disease. By H. V. Carter, M.D., Professor of Anatomy and Physiology, Bombay Medical College.

XIII.—*On a Case of Chylous Urine.* By A. T. H. Waters, M.D., &c. We notice these papers together as they refer to the same subject. Dr. Carter describes three cases that occurred in his practice at the Jamsetjee Jejeebhoy Hospital, where the disease is, he says, not uncommon. The first, which was not a case of chylous urine, but is important as illustrating the local affection of the lymphatic system, was that of a Parsee youth, suffering from slight fever. The inguinal glands were greatly enlarged, soft and doughy to the touch, but not painful. On the cutaneous surface of the thigh, a few inches below Poupart's ligament, was a small, hardly perceptible, pimple, from which there occasionally issued a milky fluid, and sometimes so copiously that in the course of the day a pint has been collected. Pressure just above the spot caused the flow to cease; when the spot itself was compressed the fluid squirted out to some distance, leading to the supposition that there was a small dilated sac behind the orifice. The discharge commenced, spontaneously, six months before, and ceased on pressure having been used; but recurred after intervals, the present being its third appearance. Before it comes on, the glands in the groin become tumid, and rather painful; afterwards this ceases. The fluid discharged had all the chemical and microscopic characters of chyle.

The second case was that of an adult Hindoo, who applied on account of an affection of the scrotum, the skin of which was corrugated in a peculiar way—thickened and studded with numerous small tubercles, which were soft to the touch, and when punctured discharged freely a chylous fluid. The size of these tubercles or varicosities varied from that of a pin's head to that of a pea, or even larger. The scrotum began to enlarge four months before, and the milky discharge occasionally occurs spontaneously, and intermits. It does not issue from one spot, but from several it may be, according to the number and size of the tubercles that have burst. When it ceases, and sometimes even when it is going on, the urine becomes chylous and frequently coagulates. The patient was admitted into the hospital, when Dr. Carter found that the tumefaction of the inguinal glands seemed to alternate with the appearance of chyle in the urine; and the parts also became tumefied a short time (two or three hours) after a full meal, and again subsided. The fluid discharged had all the character of chyle

or a mixture of this with lymph. The chylous character of the urine was also well established. Various plans of treatment, local and general, the latter including large doses of gallic acid, were tried, without producing a favourable effect.

The third case was that of a Hindoo youth, who applied, stating that his urine appeared to be mixed with milk and blood; that this appearance had come on suddenly two years since, continuing three-and-a-half months; suddenly ceased for five months, and then came on again, lasting nine months; again stopped for two months, and re-appeared six months before his applying at the hospital. In this case there was no external affection of the lymphatic system; the urine was unequivocally chylous, and occasionally contained clots both of coagulated fibrin and blood clots which often caused difficulty in micturition.

Dr. Carter enters into a critical examination of the theories that have been propounded to account for the presence of chyle in the urine, and shows that none of them fully account for all the facts; and then suggests there is some abnormal distribution of the chyle which becomes mixed with the urine in a direct manner, and that it does not arise from abnormal excretion of chyle, as Prout supposed, or its absorption, as Beale thinks; in fact, that some abnormal communication, as by the rupture of varicose lymphatics, is established between the lacteal system and the urinary tract; and that the vessels, from their varicose state, and from the efficiency of their valves being impaired, allow of a regurgitation or backward flow of the chyle.

“The cases now reported give evidence of a state of the lymphatic system not hitherto recognised. In the first instance the glands are greatly enlarged and their function increased; the vessels connected with them are also dilated, and there is clear proof that this state extends inwards; as high, indeed, as the thoracic duct, since the fluid discharged at the skin of the thigh is not mere lymph, such as ordinary lymphatic vessels carry, but a rich chylous fluid. Of such a fluid the only source can be the terminal lacteals above, the flow or current being reversed on account of the altered state of the vessels, whose valves are probably useless. Had the chylous fluid, which in this case poured out on the cutaneous surface, been turned upon the urinary mucous tract, we should have had all the phenomena of chylous urine.

“In the second case this must, in reality, have occurred. There is a very similar but more marked morbid condition of glands and vessels, and a similar reversal of the flow of chyle; but, in addition, the urine is

found to contain chyle, its appearance in that fluid being clearly connected with exacerbation of the local disease.

"Lastly, in the third case the urine has the characters of that last mentioned, but there is no external local disease. It would be difficult, however, to disprove the possibility of more deeply seated local hypertrophy and dilatation of the lymphatic system; the warrantable presumption is that such really existed.

"Hitherto anatomical proof of the accuracy of these views has not been obtained, but many of the phenomena of disease are considered to be satisfactorily explained on grounds not so well founded in reason and fact as those now offered in support of the proposed explanation of chylous-urine disease."

Dr. Waters' case is that of a sailor, a native of Bermuda, who was admitted into the Northern Hospital, Liverpool, suffering from retention of urine, when it was soon discovered that the cause of the retention was the coagulation of the urine within the bladder. The urine had all the characters of being mixed with chyle; and after it had been passed for a short time, it coagulated into a tremulous mass, which assumed the shape of the vessel which held it, and exactly resembled *blanc mange*; the coagulum sooner or later disappearing entirely, or in part, leaving the urine altogether clear, or partly clotted.

Dr. Waters adopts the view that the disease depends on the excretion by the relaxed capillaries of the kidney, of the albumen, the fibrin, the fat, and the blood corpuscles, and recommends for its treatment the use of gallic acid, which he gave in this case in doses as large as 120 grains a day, and under the use of which the urine gradually assumed the normal condition, which it maintained for four months, the latest date at which there is an account of the case. But it is right to observe, that in one of Dr. Carter's cases large doses of gallic acid were given "without producing a favourable effect."

XIV.—*Observations on the Tactile Sensibility of the Hand.* By Ed. Ballard M.D., &c.—This paper details, by tables and diagrams, a series of elaborate experiments after the method of Weber, on the relative sensibility of the several regions of the experimenter's own right hand.

XV.—*On the Influence of Paralysis; Disease of the Joints; Disease of the Epiphysial Lines; Excision of the Knee; Rickets*

and some other Morbid Conditions upon the Growth of the Bones. By G. M. Humphry, M.D., &c.—This paper is intended as a continuation of the one by the author, published in the last volume of the Society's "Transactions." The first section gives the measurement of the corresponding limbs in eight cases, where one of them had been paralysed from infancy, and shows that while there is generally a deficiency in the longitudinal growth of the bones, the amount of this is irregular. But there is a more constant and marked deficiency of lateral growth, affording a better example of the relation between the growth of the bones and muscular action, than the deficiency of length. The second section relates eight cases of impairment of growth from old disease of joints. We extract, in his own words, Dr. Humphry's conclusions on this subject:—

"In this class of cases, as well as in the paralytics, the deficiency of growth is usually apparent in all the segments of the affected limb, though it is most marked in those contiguous to the diseased joint. It depends doubtless, as in paralysis, in great measure, upon imperfect use of the limb; and this is, commonly, most marked in the segments contiguous to the diseased joint. In some instances (as in Case 15) the growth is rendered more defective by the disease extending through the epiphyses to the shafts, and so involving the epiphysial lines.

"One might infer that in some of these cases the side of the pelvis must share the deficiency of growth with the affected lower limb; and the inference is strengthened by a case published by Dr. Barnes,^a in which the left side of pelvis, measured, externally, from the sacrum to the symphysis, was an inch and a half smaller than the right, the patient having been lame in the left leg, which was an inch short, from the age of two years, when the ankle was broken. I have not, however, had an opportunity of verifying this supposition by measurement, and I am not aware that females with shortness of one lower limb, from ankylosed joint or other disease, are peculiarly liable to difficulty in parturition."

Dr. Humphry next details some cases of deficient growth dependent on various conditions; and also gives the particulars of a remarkable case of increase of growth from partial necrosis of the shaft of the femur, the only example he has himself met with; but in a note he refers to some other cases that have been recorded. In his case he supposes that the disease in the lower part of the

^a Obstetrical Transactions, for 1861, p. 315.

shaft of the femur acted as a stimulus to preternatural activity of the growing processes in the epiphysial line.

The next section is on the effect of excision of the knee upon the growth of the limb. This is a question of very great importance, with reference to the propriety of excising the knee-joint in young subjects; and Dr. Humphry gives, in a table, a list of all the cases in which he has been able to obtain information on the subject. The following are the conclusions at which he arrives:—

“I think we are justified in concluding:—*First*, that if the epiphysial lines are sawn away in the operation of excision of the knee, the subsequent growth of the limb will be impaired; *secondly*, that if the epiphysial lines be left intact, there is much probability that the growth of the limb will fully or nearly equal that of the other limb; *thirdly*, that the probability, or even the certainty, of a failure of growth in the limb is not to be regarded as a fatal objection to the operation, and scarcely constitutes an objection at all after the age of fourteen or fifteen.”

The paper concludes with a series of measurements, showing the effects of rickets on the growth of the bones.

XVI.—*An Analysis of 230 Cases of Lithotomy.* By Thomas Bryant, F.R.C.S., &c.. In this paper Mr. Bryant analyzes all the cases of lithotomy that have occurred in Guy's hospital for the last twenty-five years. The communication is a very valuable one, and well worthy of the careful perusal of those interested in the subject.

XVII.—*On the Treatment of Acute Rheumatism, considered with regard to the Liability to Affections of the Heart under Different Remedies.* By W. H. Dickinson, M.D., &c. The author of this paper held, for several years, the office of Medical Registrar, which made it necessary for him to watch cases of disease which, although of a similar nature, have fallen under the care of different physicians, and have, consequently, been subjected to diverse methods of treatment; and he saw reason to believe that the frequency with which acute rheumatism was followed by inflammatory affections of the heart was regulated by the treatment to which the patients were subjected, and he now gives an analysis of all the cases of acute rheumatism that came into the hospital during a period of five years, in which, on admission, the sounds of the heart were natural. The cases have been classified according to the treatment adopted, and the condition of the heart has been noted throughout.

Venesection was adopted in eight cases, other remedies being used; all but one getting calomel and opium at intervals, and most of them salines. In the eight cases the heart remained uninjured in only half the number, and they remained under treatment for periods varying from thirteen to eighty-four days, giving an average of more than forty-one days.

Mercury was trusted to almost entirely in six cases; and in eighteen others salines with, and without, nitre were given in addition. Of those twenty-four cases, six got inflammation of the heart, which proved fatal in two; and the average duration of treatment of the patients who left the hospital alive was thirty-seven days.

Dover's powder, opium, belladonna, quinine, iodide of potassium, and guaiacum were used in seven cases of which the heart became involved, and in four the duration of treatment was forty-six days. Opium, as recommended by Dr. Corrigan, was only used in one case; but Dr. Dickinson refers to a report of twenty-one cases, published by Dr. Sibson, in which it was used, and in which no less than fourteen, or exactly two-thirds, manifested, while under treatment, symptoms of valvular or pericardial inflammation.

Nitre was given in seven cases without salines, alkalies, or mercury; only one got a cardiac complication, and the average duration of treatment was twenty-seven days. In cases where nitre was used in conjunction with other remedies it was also beneficial.

Saline Treatment.—By a sort of arbitrary definition Dr. Dickinson includes under this term, for the sake of clearness, all cases treated with potass or soda in combination with carbonic or vegetable acids, in quantities not exceeding three drachms in the twenty-four hours. Of these there were sixty-two, but in the greater number other remedies were given in conjunction. The whole number gave seventeen instances of cardiac complication, or 1 in 3·6. In seven cases salines alone were used, giving two cases of disease of the heart, and an average duration of thirty-three days. Salines with nitre gave better results, but not so good as nitre alone. Salines with mercury gave a longer duration of the disease, and did not alter the liability to heart affections, nor did they alter the disastrous results that follow the use of the reputed specific remedies. Of six cases, where they were used in conjunction with Dover's powder, the heart became involved in four.

Partial Alkaline Treatment.—This means the use of the same salts

of potash and soda in quantities of between three and four drachms in the day. This treatment shortens the duration of the disease; but this advantage was lost where the treatment was complicated by the addition of colchicum and other medicines. The liability to disease of the heart does not seem to be lessened by saline treatment; in seventeen cases it was affected in six.

Full Alkaline Treatment.—Meaning the use of the same salts in quantities, varying from half an ounce to an ounce and a-half in the twenty-four hours. This treatment afforded better results than any other. Of twenty-two cases the average duration was twenty-five days; but here again the addition of colchicum prolonged the disease—as of twenty-six cases, in which it was added to the alkaline treatment, the duration was thirty days. Of the total forty-eight cases, treated with large doses of the alkalis, one only got any cardiac complication; and this occurred within twenty-four hours of the commencement of the treatment, and was so slight that the heart's sound had again become normal when the patient was leaving the hospital.

XVIII.—*Amaurosis consequent on Acute "Abscess" of the Antrum, produced by a Carious Tooth.* By S. James Salter, M.B., &c.

XIX.—*Two Cases of Extensive Arterial Obstruction from Separated Cardiac Vegetations, followed by Gangrene of the Lower Extremities, and Death.* By S. J. Goodfellow, M.D., &c.

XX.—*Case of Iliac Aneurism.* By James Syme, F.R.S.E., &c. Mr. Syme believes that the Hunterian operation for aneurism has been too generally adopted, and that in some cases what has been called the old operation would be both easier and safer. He believes that even in spontaneous aneurisms it does not necessarily follow that the coats of the artery are diseased throughout the whole extent of the tumour; and trusting to find a sound portion of the artery within the sac, he has repeatedly operated with success, by laying open the cavity and securing the orifice by ligatures. Of the cases thus operated on he believes the one now related the most remarkable, and he thinks it so strongly supports the position in question that any further evidence would seem hardly to be required.

The patient was a sailor who, on two different occasions, met

with injuries in the groin, followed each time by the appearance of a tumour. We extract the description of the tumour as it was when the man was admitted into the infirmary, and of the operation by which the disease was cured:—

“Upon examination, I found the tumour even larger than had been expected. It extended in length from below Poupart’s ligament considerably above the umbilicus, and stretched from nearly two inches beyond the middle line of the abdomen, towards the right side, completely across the left iliac region, so as to overlap the crest of the ilium. Throughout the whole of this enormous swelling there was a strong pulsation and distinct aneurismal bruit; there was also great pain from pressure on the nerves, and considerable œdema of the thigh, from obstruction of the venous circulation.

“From the history of this case it seemed probable that the artery had been ruptured in the groin, and that, if an opening were made into the sac, the pressure of the finger would prevent hæmorrhage, until the clots were turned out and ligatures applied. On the 20th of April, chloroform having been administered, I thrust a knife into the aneurism, about an inch above Poupart’s ligament, and at the same distance from where the anterior spinous process of the ilium was supposed to be. Having inserted my fore-finger, and found nothing but a confused mass of clots resting upon the bare bone, I made room for the middle finger also, and, still obtaining no satisfactory information, enlarged the wound sufficiently for thrusting in the whole hand, but with such force that the integuments embraced it tightly at the wrist, so as to prevent any escape of blood. I then ascertained that the artery was not in its proper place, and felt that it would be necessary to lay open the sac in order to discover the seat of rupture. But as this could not be done without causing a fatal hæmorrhage, so long as the circulation continued in the vessel concerned, I availed myself of a screw clamp which Professor Lister, of Glasgow, had had constructed for effecting compression of the aorta. This he applied so as to stop pulsation in the right groin, and I then, by means of a probe-pointed bistoury, at once dilated the wound to the extent of six inches, parallel with the crest of the ilium. By the united action of both hands all the blood and fibrinous clots, to the amount of six pounds by measurement, having been scooped out, the surface of the sac was carefully examined, when a small oval aperture was detected in what might be called the roof of the cavity, towards its inner side, high up in the pelvis. Upon relaxation of the screw, a gush of blood left no room for doubt as to this being the arterial orifice, but, upon examination, it was found to be separated from the vessel by a very dense texture forming the sac. Having divided this, I dissected carefully, so as to bring the arterial coats distinctly into view, and passed a ligature on each side of

the opening. When these were tied the blood still issued, though not with the same force as it had done previously, and we therefore inferred that the internal iliac originated from the portion of vessel which had been included. A ligature was applied, with the view of embracing it, and then the clamp was taken off, without any further bleeding. The edges of the wound were kept in contact by silver sutures, covered with dry lint, and gently supported by a bandage. The patient, who had slept quietly during the whole process, then awoke, quite unconscious of the arduous undertaking in which we had been engaged, and which could hardly have been accomplished without the assistance of Mr. Lister, and my colleague in the hospital, Dr. Watson, to both of whom my best thanks are due. Everything went on favorably afterwards: the patient was at once relieved from the pain, which he had been able to endure only through the use of large opiates, the œdema of his thigh quickly disappeared, and a slow but progressive improvement was observable in his general health. On the nineteenth day after the operation all the ligatures came away together, and then the wound gradually contracted."

XXI.—*Contribution to the Statistics of Cancer.* By W. M. Baker, M.R.C.S., &c. No analysis could do justice to this very excellent paper, which consists of a series of tables drawn from 500 cases, noted by Mr. Paget in hospital and private practice, and showing the natural history of cancer.

XXII.—*Report upon Syphilis, with Reference to the more Mixed and Unusual Forms of the Primary Symptoms.* By J. A. Marston, M.D., Assistant Surgeon Royal Artillery. We must pass over this paper like the preceding one, merely recording its title for the benefit of those investigating the subject of which it treats.

XXIII.—*Case of Aneurism of the External Iliac and Common Femoral Arteries, treated by Digital Pressure.* By Henry Lee, Assistant Surgeon St. George's hospital, &c. The pressure in this case was at first useful, but ultimately the aneurism extended, and the patient died. In his remarks Mr. Lee argues: 1st. That the operation of laying open the sac of aneurisms, with a view to exposure and tying the vessels, must, in the majority of cases, fail, because an examination of the preparations of aneurisms of the larger arteries, as they exist in the museums of London, will show that the very great majority of these are of the fusiform

character, formed by the dilatation of all the coats of the vessels. The cases in which the artery, of its natural size, is to be found running by the side of a portion of the sac, in such a position as to admit of a ligature being applied to it, are very exceptional; and the *post mortem* examination shows that if such an operation had been attempted in the present case it must have failed in the same way as in the case operated on by Sir A. Cooper. 2nd. Mr. Lee argues that the digital compression was shown by the *post mortem* examination to have had the effect intended, as it caused a large firm clot to be formed, but the coats of the artery being ruptured it was unsupported and gradually gave way.

XXIV.—*Report of the Committee appointed by Royal Medical and Chirurgical Society, to Investigate the Subject of Suspended Animation.* The investigations of the committee were divided into two portions; the first being pursued by experiments on living animals; and the second, on dead human bodies. The experiments on living animals were intended for the purpose of examining the phenomena of apnea in its simplest form, viz.: when produced by simply depriving the animal of air; and the principal facts to which attention was directed were:—1. The duration of the respiratory movements. 2. The duration of the heart's action. It was found that in dogs, on an average, respiration lasted four minutes, five seconds after the animal had been deprived of air; and the heart's action continued seven minutes, eleven seconds, that is three minutes, fifteen seconds after the respiratory efforts ceased.

3. The next question investigated was the period, after simple deprivation of air, at which recovery is possible under natural circumstances, without artificial means of resuscitation; and it was found that a dog might recover, by his natural efforts, after a deprivation of air for three minutes, fifty seconds, and is not likely to recover after four minutes, ten seconds; and it was further found that the inspiratory efforts of the animal were sufficient to raise a column of mercury four inches, a force quite sufficient to draw foreign bodies into the lungs.

Though animals simply deprived of air may recover unaided after four minutes five seconds; yet animals immersed in water will not recover if longer submerged than one and a-half minute; and this difference is mainly due to the water that has been drawn into the lungs, preventing the access of air.

Many other questions were investigated, and many most ingenious and conclusive experiments were performed, and especial attention directed to the several plans of resuscitation in ordinary use, viz.:—Pressure by the hands or a bandage on the chest, whereby a portion of air is expelled, and on relaxing the pressure the chest expands and air enters. The “ready method” of Marshall Hall, and the plan recommended by Dr. Silvester, of these methods it was found that by the first, and using a pressure of about thirty pounds, or such as might safely be applied to a living body, about eight to fifteen cubic inches of air could be expelled, and a similar amount introduced on removing the pressure. By Marshall Hall’s plan the whole amount of exchange of air produced varied according to the condition of the subject, sometimes not exceeding a few cubic inches, and never exceeding fifteen cubic inches; while by the Silvester plan the results obtained were remarkably uniform, and the amount of air exchanged much greater than by any other method, being from nine to forty-four cubic inches. The committee conclude their report with the following suggestions for the treatment of apnea generally:—

“That all obstruction to the passage of air to and from the lungs be at once, so far as practicable, removed; that the mouth and nostrils, for example, be cleansed from all foreign matter or adhering mucus.

“That, in the absence of natural respiration, artificial respiration, by Dr. Silvester’s plan, be forthwith employed in the following manner:—The body being laid on its back (either on a flat surface, or better, on a plane inclined a little from the feet upwards), a firm cushion, or some similar support, should be placed under the shoulders, the head being kept on a line with the trunk. The tongue should be drawn forward so as to project a little more from the side of the mouth; then the arms should be drawn upwards until they nearly meet above the head, the operator grasping them just above the elbows, and then at once lowered, and replaced at the side. This should be immediately followed by moderate pressure, with both hands, upon the lower part of the sternum. This process is to be repeated about twelve or fourteen times in the minute.

“That if no natural respiratory efforts supervene, a dash of hot water (120° Fahrenheit) or cold water be employed, for the purpose of exciting respiratory efforts.

“That the temperature of the body be maintained by friction, warm blankets, the warm bath, &c.

“In the case of drowning, in addition to the foregoing suggestions, the following plan may be, in the first instance, practised:—Place the body with the face downwards, and hanging a little over the edge of a table,

shutter, or board, raised to an angle of about 30° , so that the head may be lower than the feet. Open the mouth and draw the tongue forward; keep the body in this position for a few seconds, or a little longer if fluid continues to escape. The escape of fluid may be assisted by pressing once or twice upon the back."

Précis Iconographique des Maladies Vénériennes. Par M. A. CULLERIER, Chirurgien de l'Hôpital du Midi. Paris: Méquignon-Marvis, 1861. Parts 3-5. Illustrated with numerous Coloured Drawings on Steel.

IN our Journal for May, 1862, we gave an analytic notice of the two opening numbers of this series. As our readers will see, by turning to the review, the work is planned after the model of Bernard and Huette's Operative Surgery, and Goffres on Bandaging; works remarkable for the superior manner in which they were brought out, and for the admirable finish of their numerous illustrations. The present work worthily follows in their foot-steps. It seems carefully written, so as to give a clear account of its subject—no easy matter where syphilis is concerned; and if we may not praise the beauty of the accompanying engravings it is because of their subject rather than their execution; the latter leaves nothing to be desired. Of the former, accustomed as we have been to see every variety of venereal in every stage, it is enough to say that no possible ill that flesh can be heir to from this cause seems likely to be left undelineated. The objects are sufficiently disgusting in their nature, and we really pity the unfortunate artists who have had the ugly end of this labour of love to toil upon. The three numbers which lie before us treat, first, of gonorrhea and warts, concluded from the two former numbers; and then of soft and hard chancre. Our attention need not be detained upon the former subject.

Concerning the frequency of soft chancre, M. Cullerier is at variance with most observers. Whereas M. Puche found 8,045 soft chancres in 10,000 cases, and M. Fournier 215 in 341 cases, our author has reversed the proportion; 414 cases observed by him at Midi, in 1861, are classed as follows:—143 soft, 250 indurated, and 21 doubtful. If this ratio be corroborated by the observations of others, the contradiction which it gives to the popular belief can only be accounted for on the supposition that M. Cullerier's more careful observation has detected a hard stage in many instances where a less accurate observer would not have noticed it, and that many of the

so called soft sores of other writers have been hard during some period of their course.

Believing soft chancre to be syphilitic in the fullest sense of the term, and following the lights of reason and experience, M. Cullerier asserts that it is dangerous to promise an immunity from secondaries in any given case, however trifling. To this we have no objection; we have met with cases of the most trivial excoriation, scarcely deserving the name of sore, which healed rapidly, and yet were followed by well-marked secondaries, slight, no doubt, but yet not agreeable either to patient or over confident attendant.

In spite of Vidal and Dupuytren, who have given the weight of their authority against the practice, our author approves of caustic in soft sores, provided it be applied unsparingly with no timid hand. He specially affects the sulphuric acid and charcoal of Ricord, which, if painful, is energetic. He also speaks favourably of excision where the situation on a thin projecting margin of skin admits of its being done at a stroke, and without infecting neighbouring parts.

Where caustic or excision would come too late, he approves of dry applications, such as dry lint or charpie, calomel, or alum, in powder. In Mr. Labatt's excellent treatise on Venereal, mention is made of *blue lint*, prepared from solution of sulphate of copper, which can be dried and kept in the pocket-case; we have found it an admirable application for soft sores, and sovereign against warts.

As regards the general treatment of soft chancre, M. Cullerier's protest against those who gorge their patients with mercury for all sorts of sores on the genitals, virulent or otherwise, deserves to be inscribed in letters of gold.

M. Cullerier's opinions, as it is pretty well known, are somewhat extreme on the subject of the transmission of constitutional syphilis, though not so much so as those of our late distinguished syphilographer, Professor Porter. It may arise, according to him, not only from the hard and soft chancre, but also from the ichor or discharge of various consecutive eruptions and affections, especially from mucous condylomata, and also from the blood of syphilitic patients. This last point, long denied, has finally been set at rest by the experiments of Pellizari, who inoculated a perfectly sound person with blood taken from the arm of a syphilitic patient with the result of infecting the person so inoculated, both with a primary sore and with secondary eruption. To these sources of infection Mr. Porter added the semen. M. Cullerier makes no mention of this, nor indeed does he allude to Mr. Porter's writings on the subject. At the

same time that we must accept these results, on the faith of those who have observed them, we must continue to believe that even infection from the ichor of secondary or tertiary eruptions is rare in comparison with the number of times of contact. M. Cullerier does not believe an absolute immunity resulting from syphilization, whether intentional or otherwise; at the same time he states his impression to be that a second attack of genuine constitutional syphilis is improbable in any given individual. A hard chancre confers, according to him, comparative but not absolute immunity from a second attack. As most people now do, he looks upon the hardness as an evidence that infection has extended to the system, and he asserts that the period of incubation from the time of poisoning to that of the appearance of the sore is indefinite; it may be prolonged in soft sores and scarcely perceptible in hard, though, of course, the converse is the rule.

Finally—for our present notice must draw to a close—M. Cullerier does not treat the hard sore by mercury. To the horror of the routine surgeon, he lets it alone; local treatment being confined to dry lint, a little aromatic wine, or some drying powders, among which, certainly, he enumerates calomel, but merely as a light detersive. In the very rare cases where a doubtful sore can be destroyed with caustic, or excised, he may resort to either plan of treatment, but quite exceptionally. Looking on the hardness as a sign of constitutional infection, he only cares to close the ulcer as easily as he can, and then he calmly waits until the skin begins to throw off the disease. His remedies are limited during the interval to tonics, generous diet, and all other means by which to prepare the constitution for the struggle that may await it. But here we must let him speak for himself:—

“Mercury administered from the commencement, before the appearance of secondaries, disturbs their regular evolution, and often delays, but does not prevent them; sooner or later they will appear. I know well that, in remaining inactive, the question will suggest itself, that the approaching accidents will be more serious, and it is this fear which has caused mercury to be exhibited from the moment that hardness shows itself. I myself followed this practice for a long time; but, inasmuch as I often saw very slight secondaries in persons who had not been submitted to a mercurial treatment, while very intense and persistent affections of the same order were to be met with in persons who had been mercurialized for hard sores, I renounced the practice, and now content myself with treating the induration locally, not beginning internal

treatment until secondaries make their appearance on the skin or mucous surfaces; and I have remarked that the mercury is better borne, and the disease is modified and subdued in a more rapid and lasting manner—for mercury is not an antidote against syphilis; it only attacks its manifestations more energetically than any other medicine.”

How hard is it to arrive at truth as regards syphilis. In the above extract M. Cullerier says, sooner or later secondaries will break out; in another place he tells us some hard sores will heal and never be followed by secondaries. Both dicta cannot be true absolutely. The late distinguished Professor Porter, who held the extreme doctrines of the specific effect of mercury in the cure of syphilis, tells us of a case where the primary sore healed up, where no secondaries followed, and yet, after a lapse of twenty-nine years, a pocky child was born, proving the latency of the disease during all that long lapse of years (that is, if the patient was not concealing a second infection, which, after all, is the likely solution). Is a surgeon never sure that his patient is cured? If, trusting Cullerier, he gives no mercury for a hard primary, is he to live in dread lest, at the lapse of many years, his patient, apparently long free from syphilitic taint, should at last give such plain evidence of the malpraxis which left him all that time with a corroding, life-destroying poison in his system? Or, believing Professor Porter implicitly, is he to give mercury at every stage of the disease, not even suspending it when, in the midst of a full course, a full crop of secondaries bursts forth, when Ricord tells him that in the interval between the healing of the sore (according to Cullerier, between its appearance) and the evolution of the secondaries, mercury will only derange the natural effort to expel the poison. How many contradictory rules may be evolved, not only from surgeons of various views, but from the works of any one surgeon, we care not here to inquire. For us the rule has always been to listen to all *facts* on the subject, to believe no theories, and to doubt all general deductions. Syphilis is no mathematical quantity, to be eliminated from one side of a human equation by pouring in a given quantity of its antidote, nor yet by adding an equal quantity of itself to the opposite side of the equation (in the form of syphilization). Syphilis is not a thing, but a condition, as is all disease. Those who look on disease of any kind as a thing must be specialists—will be routinists. The man who regards it as a condition will recognise its diversity, the result of the endless variety in the conditions and the habits of individuals.

That Cullerier is right in the main, as regards the little use in the administration of mercury before the appearance of secondaries, we are fully persuaded. We have not been able to satisfy ourselves of any certain benefit where it has been given before this period, although we have given it, or seen it given, in every variety of method and amount. It confers no positive, or even probable, immunity in genuine hard sore; and where much has been given and secondaries result, they have invariably seemed to us more severe and obstinate. But there are many signs of secondary or constitutional syphilis which will prove that the disease is there, even when no regular eruption is to be seen. The patient has a dirty-looking skin, with faint discolourations, often not seen unless when the skin is heated, clammy hands, pains and aches, malaise and languor, headaches, huskiness of voice, a tendency to break down in his weakest point—be it head, stomach, chest, or what else; hundreds of little points will show him to be suffering from a latent disease, which his natural powers are unable to throw off unaided. His system is more or less saturated with tissues, enfeebled and poisoned by the syphilitic taint, and he either lingers on with varying, and perhaps severe, ill health, or, in milder cases and robuster persons, he only shows it when occasional exposure or fatigue have reduced his powers. But still, when syphilis has really tainted the system, some evidence of the taint will be found, and an appropriate treatment will relieve it. What that is to be the judgment and discretion of the surgeon must decide in each case and under each manifestation. Mercury is most valuable as an aid to nature in expelling diseased and poisoned tissues; where administered recklessly, or in the smallest excess of what is necessary, it will kill healthy tissue and act as a poison. If syphilis could once be rescued from the realms of quackery and routine, and if men would but treat it as they do other diseases, giving due heed to all the attendant circumstances of each case, the contradictions which disgrace its literature and our profession would soon be at an end. We accept M. Cullerier's labours as those of an honest man, with clear views, and less than the ordinary amount of dogmatism; and we sincerely commend his present work to all our readers. In it they will find the opposing statements of other eminent syphilographers, fairly weighed and answered in a becoming spirit, while his own are supported by much evidence that will carry conviction of their general accuracy and of their author's conscientious intentions to be impartial.

Lectures on Surgery; delivered in St. Bartholomew's Hospital. By WILLIAM LAWRENCE, F.R.S., &c. London: Churchill. 8vo, pp. 632.

It is a pleasing sight to see the green old age of a Lawrence occupied in discussing topics which are more generally left to younger men to speculate upon. Most men desire for themselves longevity, with persistence of mental vigour. To such of us it is always a matter of self-congratulation when we meet with a veteran who retains, to a late period of life, his youthful energies; we see reflected in him what, we would fain flatter ourselves, is the image of our own future condition; and we overlook many errors or deficiencies in his work, because we hope for a similarly charitable criticism when our own turn shall come; when to these almost involuntary feelings there are added well merited respect for the man, and confidence in his previous achievements, it is not too much to say, that whatever may fall from his lips will be received with scarcely a question as to its value, even though we may be obliged to alter the formula in which it is cast, in order to suit the requirements of more modern investigations. Thus it is that when we find a Brodie engaged in solving deep problems of psychology, or a Lawrence devoting himself to elucidate the phenomena of inflammation, we are willing to accept their dicta as essentially true, even if the language in which they are clothed should be tedious, and the philosophy akin to that of the past generation.

Mr. Lawrence's *Lectures on Surgery* are not free from the faults inherent to the works of the aged. The form of lecture is of itself liable to become tedious, or prolix, and the substance is often difficult to come at, through the outer covering of words. But, those who will steadily read these lectures through, from cover to cover, will be amply rewarded by an increase of their knowledge, both of the theory and practice of surgery. The book is one that we could not analyse, nor is it easy to give an idea of its value by occasional extracts, for, from what has been said above, it is evident that these should be copious in order to do justice to the writer; however, we cordially recommend our readers, young and old, to make themselves personally acquainted with its contents; we promise that they will not regret the labour.

This volume, at first sight, appears to be confined to general subjects:—Inflammation, and what are called its results; wounds; scalds

and burns; the sympathetic results of local injuries, such as delirium tremens and tetanus; scrofula; gout; rheumatism; syphilis and cancer, are more or less fully discussed.

Mr. Lawrence has strong opinions, and gives utterance to them in unmistakable terms.

Thus in advocating bleeding as the means, *par excellence*, of checking inflammation, he lays it down that, twenty, thirty, or even more ounces of blood will need to be withdrawn, and recommends bleeding to syncope as advantageous in some instances; he also asserts that the Londoner will bear bleeding as well as a countryman; his reasoning on this point is a curious example of the way in which early habits of thought give a bias to the judgment. The very grounds on which he urges the propriety of bleeding are those upon which the opponents of that practice rely. He says:—

“The inhabitants of London, from the highest to the lowest, for the most part indulge their appetite like the rest of the world; and they who live in the country do the same. Nowhere is the consumption of animal food and fermented liquors more general than in our metropolis. These habits, of which the injurious effects are aggravated in many instances by sedentary occupations or indolence, produce their natural results—a plethoric state of system and abundance of inflammatory diseases, both of which will soon be detected, by the attentive observer, in all classes. I am convinced that inflammations are as numerous and violent among Cockneys as among countrymen, and I know that they can only be counteracted by the same means which are just as necessary and safe in the one case as in the other.”

Now the line of argument generally adopted against bleeding is that the gross feeding and copious indulgence in strong drink which characterize the inhabitants of cities, when coupled with the late hours and want of fresh air, which are the necessary concomitants of such a life, render the subjects of it liable to unhealthy forms of inflammation such as make general bleeding, to any large extent, inadvisable. No doubt, both in town and country, young or vigorous persons are met with who will require venesection for acute inflammations, and whom it is right to bleed; but Mr. Lawrence would have us use bleeding as the rule in all inflammations; and he goes so far as to assert that typhoid symptoms are not to be produced by loss of blood. We do not doubt that the experience and feeling of most of our readers will go against his in this matter. As regards the lower orders in Ireland, whether in town or country,

the vast majority of them are not now fit subjects for bleeding; and it is idle to dwell upon the point,

We have given the above as an example of Mr. Lawrence's strong predilections for forms of practice more common in his youth than now, and which he, no doubt, feels the more called on to uphold, as fashion or other reasons may have unduly displaced them. Let us now select a passage or two as examples of the valuable contributions which his life-long experience has enabled him to make to the treatment of disease.

In treating of the management of acute phlegmonous abscess, he very properly objects to the seton as most irritating, and to caustic as unfit except in buboes, which have been left too long unopened. He also censures the undue handling or squeezing of an abscess after it has been opened. In the ordinary course of nature, he says:—

“When the abscess bursts of itself, the aperture is small, and the escape generally gradual; the cyst contracts in proportion as the contents are lessened. Pressure or violence are not only not necessary for discharging the matter, but they give pain and irritate. Still less should you thrust your fingers into the abscess, as I have seen done, or introduce instruments of any kind without necessity. Having made the opening, let the matter run out. Cover the part with a fomentation cloth for half-an-hour, then put on a poultice.

“Since many practitioners are in the habit of puncturing as soon as they find that matter has formed, seeming to regard it as a surgical duty to do so, it is necessary to consider the question generally, which of the two proceedings—namely, leaving an abscess to its natural course, or discharging the matter by puncture—leads to the more favourable termination of the disease. The formation of pus in phlegmonous inflammation—its most frequent effect—relieves or terminates the local disturbance; as the matter advances to the surface, the inflammatory swelling and induration of surrounding structures lessen and disappear, and the ulceration of the thinned skin completes a series of salutary processes by which the sides of the collection are brought into the most favourable state for contracting and coalescing, so as to obliterate the cavity. An early opening not only interrupts the natural process of cure, but often excites fresh inflammation. The sides of the puncture, made in parts of some thickness, will unite by adhesion if left in contact; while, if distended by lint, they become irritated and painful, the ultimate result being a protracted and less favourable cure. These dangers may be avoided by delaying the puncture till the skin has become red and thin—that is, nearly in the state to which it is brought previously to natural bursting.”

Having laid this down as a judicious general rule, he then points

out the exceptional cases in which immediate interference is imperative—such as great depth, neighbourhood to joints and cavities, the cases of tendons, &c. It is, however to the general rule we wish to draw attention, as a judicious protest against the meddlesome surgery which is not unfrequently to be met with, especially among younger men.

Having related or referred to instances in which life has been prolonged from four to ten years or more, by the removal of scirrhus mammary glands, and having laid down general rules for selection of cases for operation, Mr. Lawrence adds the following remarks, in which we heartily concur:—

“Disease of the axillary glands which can be removed, and the commencement of ulceration, are not conclusive against operating if the breast is loose upon the chest, and all diseased parts can be effectually taken away. To refuse operation is to pass sentence of death on the patient, and that of the most painful, distressing and often lingering kind; few minds are strong enough to bear this. To delay and temporise, wasting time in treatment which is sure to be fruitless, keeps up a state of uncertainty and anxiety, with indefinite and exaggerated apprehension of evil, which depresses the spirits, adding unnecessarily to the difficulties of the case, and often leading the sufferer to take refuge in quackery. I consider it a strong reason for operating, particularly if the breast be large, that it prevents the possibility of death by ulcerated cancer, the greatest calamity which can befall a woman. The operation is neither painful nor dangerous; the wound heals, and death may ensue after an uncertain length of time from some internal affection, not usually of much suffering or long duration.”

The book is full of sound precepts of surgery, such as might be expected from its venerated author.

Schweizerische Zeitschrift für Heilkunde.

Swiss Journal of Medical Science.

WE hail with pleasure the appearance of a young and vigorous fellow-labourer in the field of medical periodical literature; and from the promise which its first number affords, we have no doubt of its obtaining high success. No more fitting motto could have been selected, when about to usher a new periodical into the world,

than the words of Virchow, with which our Swiss cotemporary commences the address to its readers:—

“Die Wissenschaft allerdings kosmopolitisch, aber sie ist es nicht zunächst. Jede Nation bringt zu dem grossen Schatze der Wissenschaft ihren Antheil, mehr oder weniger, aber was sie bringt, das soll auch als ihr Antheil betrachtet werden, als der Ehrensmuck, der aus ihrem Geiste genommen ist.”—VIRCHOW.

From an early period to the present time Switzerland has produced many distinguished cultivators of medical science—from the days of Paracelsus to those of Haller and Rilliet. The editors of the new journal are Professors Biermer and Schiff, and Drs. Demine and Ziegler.

Professor Biermer is the contributor of an admirable paper on Syphilis of the Liver and Spleen, illustrated by a well-executed coloured plate. The author is already favourably known to us by his learned work *Die Lehre vom Auswurf*.

There are other valuable communications from Professors Moritz Schiff of Bern, and Billroth of Zürich, and from Dr. Ziegler. From that by Dr. Ziegler, on hydrophobia in the Canton of Bern, we extract the following interesting particulars:—

In the years 1860 and 1861 there were 67 dogs which were undoubtedly affected with hydrophobia, and 27 others which were suspected. The 94 cases were divided according to the months:—

December,	4	March,	10	June,	5	September,	10
January,	7	April,	9	July,	8	October,	11
February,	8	May,	9	August,	5	November,	8
Winter,	19	Spring,	28	Summer,	18	Autumn,	29

This result disproves the popular belief as to the influence of high temperatures in the production of the disease. Of the above cases there is not one with regard to which we are constrained to assign the disease a spontaneous origin. In a very great number contagion was proved to have been the cause. In almost all the others it was discovered that a short time previously a rabid dog, or one suspected to be so, had roamed about in the neighbourhood.

The disease has also been known to break out in consequence of the bite of a cat, of a buck goat, of a she goat, and of swine.

By the dogs mentioned above at least 30 persons, adults and children, were bitten, all of whom, with one exception, remain well,

although some were severely wounded, and had not sought medical aid until several days had elapsed, The exceptional case was that of a man who died in the Inselspital. One of the dogs bit a woman and a child on the 20th September last year; the former died in four weeks, of hydrophobia, but the child continues up to the present in good health.

A Treatise on Gall-Stones; their Chemistry, Pathology, and Treatment. By J. L. W. THUDICHUM, M.D. London: John Churchill, and Sons. 1863. pp. 323.

THIS work is one which shows extensive literary research, as well as laborious original investigation. It consists of six chapters, or rather distinct parts, and deals with its subject as follows:—It treats of the historical literature of gall-stone disease; the physical description of biliary calculi, and their chemistry. The author then enters on the discussion of the origin and theory of gall-stone disease; its anatomy, and finally, its pathology and treatment.

The work concludes with a series of highly interesting and instructive illustrative cases.

The digest of the historical literature of the subject occupies nearly fifty pages, and extends from the time when Alexander Trallianus wrote in the fifth century after Christ, to the present day, concluding with an allusion to the observations of Frerichs on this disease.

We do not pretend to be competent to pronounce on the accuracy of this historical detail, but we can say that it appears to show great learning on the part of the author, who feels himself sufficiently at home to criticise rather severely the “historical account” of the same affection given by Frerichs, which, according to Dr. Thudichum, “is historical only in this respect, that it contains almost as many errors as sentences.”

In speaking of the physical characters of gall-stones, the author does ample justice to the labours of others; as regards their weight, size, shape, &c., he adds but little to the observations of Morgagni, Haller, Buisson, &c. He draws attention to the observations he has himself made, as to the nuclei of gall-stones, containing casts of the biliary ducts; two well executed plates, besides several woodcuts, are given, showing the casts of human bile ducts, from the

centre of gall-stones; and the author very properly takes the opportunity of correcting an error, made in the first year book of the New Sydenham Society, p. 263, with reference to this matter, where it is stated that he had discovered a cast in one gall-stone, while in truth he had found them to be present in eight. It was also stated, that the casts appeared, *from the figures*, to have been covered with crystals of cholesterine; but the author correctly states, that such a supposition is not borne out by an inspection of five out of the six wood-cuts, and he assures us that the original drawings, and the casts themselves, leave little doubt on the subject. In some rare cases foreign bodies have been known to form the nuclei of gall-stones; a dried up ascaris was found by Lobstein, as a gall-stone nucleus, an engraving of which is given in his *Pathological Anatomy*, and copied into the work of Buisson. This latter author himself found a fragment of a liver-fluke forming the nucleus of a soft gall-stone in an ox. A gall-stone weighing four ounces is preserved in the collection at Göttingen, and is known to have been developed in an abscess in the liver, produced by a perforating ulcer of the stomach, which was found by Fuchs and Frerichs, to contain a plum-stone in its centre. Nauche found, in a contracted gall-bladder, a biliary calculus incrustation, of the size of a small filbert, formed round a needle which was two centimetres in length, and which had penetrated the wall of the gall-bladder.

In the chapter on the chemistry of gall-stone, Dr. Thudichum arranges gall-stones in a classification of seven series:—

- 1st. The pellucid or clear cholesterine calculi.
- 2nd. Mixed calculi with prevalence of cholesterine.
- 3rd. Calculi with prevalence of cholochrome (colouring matter of bile).
- 4th. Calculi with prevalence of modified cholochrome.
- 5th. Calculi with prevalence of bile acids.
- 6th. Do do of fatty acids.
- 7th. Do do of carbonate of lime.

Cholesterine, which forms so large a part of almost all biliary calculi, like the colouring matter of the bile, seems to be an ingredient of this fluid, destined for ultimate excretion from the body. It is secreted from the blood by the liver cells, and kept in solution by the biliary salts; when the acids contained in these salts undergo a certain kind of decomposition, cholesterine is deposited mostly in a crystalline condition, and then forms calculi, either by itself, or with the assistance of the colouring matter of the bile, or

the biliary acids. According to the observations of Austin Flint, jun., this material, resulting chiefly from the disassimilation of the nervous tissues, is separated from the blood by the liver; but on arriving in the intestinal canal is changed into a matter named stercorine (identical with seroline). In fact stercorine is the form under which cholesterine is eliminated from the body. It is easy then to perceive how cholesterine enters so largely into the formation of biliary calculi. The colouring matter of bile also enters into the formation of almost all biliary calculi. In adopting the term *cholochrome*, to indicate all the varieties of the colouring matter of the bile, Dr. Thudichum does wisely, for the terms, *cholophaeine*, *cholochloine*, *cholepyrrhine*, *biliphaeine*, *bilifulvine*, *biliverdine*, *cholechlorine*, &c., had made the subject of the bile colour one very perplexing to ordinary readers.

Carnivorous animals, it seems, are rarely subject to gall-stone, while these concretions are common in vegetable feeders; they have, however, been met with in almost all classes of vertebrate animals, especially those which have been domesticated.

As regards the theory and origin of gall-stone, Dr. Thudichum dismisses the hypothesis of inspissated mucus, or inspissated bile; mucus is very rarely found in gall-stones, and an inspissation of bile in the midst of fluid bile is incomprehensible. The process, he fancies, by which gall-stones are formed, appears analogous to that which produces, in the urinary passages, phosphatic or fusible calculus. It is a decomposition of the bile, akin to putrefaction. The compound amido-acids, split up into their constituents, under the influence of a course which remains to be ascertained, but is probably a putrid ferment absorbed from the intestinal canal. Under the influence of a little acetic acid, formed out of glycocoll, and some other new acid produced by a putrefactive change, perhaps valerianic acid, *cholochrome*, a quantity of cholic acid, and a portion of choloidic acid, together with some salts, and a little fat, are deposited. This is the process in the ox, and sometimes in man. But the bile of man differs in this respect from that of the ox—that it contains cholesterine, while that of the ox contains, at most, only a very small quantity as compared to the other. This cholesterine is dissolved in the taurocholate of soda. But as soon as the acid of this salt is decomposed, the cholesterine is set free, crystallizes, and is deposited upon any particle that may happen to be within easy distance, in the manner of all crystals, which like to post

themselves on prominent bodies. Such is the theory of Dr. Thudichum as to the origin of gall-stone.

In gall-stone disease the number of cases in which the calculi are deposited in the ramification of the bile-ducts are comparatively small, perhaps not more than five per cent. Calculi in the bile ducts are also rarely found, when there has not been a definable disease or disorder of the liver during life. Fauconneau Dufresne found branched calculi in the hepatic duct of a patient, who died of phthisis at thirty years of age, in the *Hôpital de la Charité*. In some similar cases the liver has been found changed, not rarely, to the extent of inflammation and purulent destruction. Calculi in the hepatic duct are not of frequent occurrence, obviously because if formed there, they can, so long as they are of moderate size, move on either into the cystic duct, or into the common duct. They are, when found in the hepatic duct, large and immovable, proceeding during life, through small distances, or remaining perfectly quiescent. Gall-stones in the gall bladder, which become so numerous as to keep their relative positions, coalesce sometimes with each other. In this manner the whole of the contents of a gall-bladder has been known to become united together, so as to form one solid mass. Biliary calculi impacted in the walls of the gall bladder, in pouches, or abnormal passages, have been observed in a number of instances, and should be distinguished from a peculiar kind of concretion which is sometimes deposited in the small glands, in the walls of the gall-bladder, and which is not derived from the bile.

As most gall-stones which cause symptoms during life pass from the gall-bladder, they have to make their way along the cystic duct; they occasionally become permanently fixed there, but in most cases pass along the duct without causing any serious or lasting injury. The same may be said of the common duct. Occasionally this duct has been found to be ruptured by the violent vomiting, while it has been distended by the calculus. Calculi may, however, become fixed in the common bile-duct.

An amazing number of gall-stones have occasionally been found in the gall bladder. Hunter found 1,000; Starck, 2,000; Paré, 1,600; Otto, 7,802.

The final chapter of the work deals with the pathology and treatment of gall-stone disease. In speaking of the use of opium the author says:—

“One of the most difficult points in practice is the adjustment of the

dose for every given case, so that on the one hand the pain shall be effectually relieved or mitigated, and on the other no narcotic symptoms of an annoying nature shall succeed the cessation of the pains. This difficulty arises from the circumstance that in some persons the pain and irritation caused by the gall-stones is of such an overwhelming nature as to be scarcely affected even by large doses of anodynes, more particularly tincture of opium given alone, or morphia administered in solution. If it happens that after the ingestion of these large doses of drugs, the pain, by virtue of the drugs or by other circumstances, such as the return or discharge of the calculus, suddenly ceases, the symptoms of poisoning by opium do not fail to make their appearance, and cause a disagreeable, and sometimes dangerous, condition of the patient. This occurred a few years ago to a member of Parliament, then residing in Ireland. Owing to the most urgent requests of the patient, who was writhing with agony, the medical attendant had administered large doses of tincture of opium, on several days, during which the colic continued. At last a sudden cessation of symptoms took place, and the patient became unconscious, and sank into a deep narcotism. From this he was roused by the usual applications, slapping of the body with the hands, cold wet sheets, beating of the surface with sticks, and other means. He was saved from the narcotism, but not from the consequences of the treatment which had saved him—for he died a few days later from the combined effects of the primary pain, the narcotism, and the severe treatment which the latter had necessitated. His case became the subject of a judicial inquiry, which exonerated the medical gentleman from the charge of negligence which had been brought against him. The evidence of several members of the medical profession adduced in his behalf on that occasion, showed that cases in which opium produces unexpected narcotism are not so very rare. The case, therefore, and the evidence elicited by it, suggest great caution in the administration of opium and its alkaloids."

One would hardly understand from the foregoing statement of a case, which will still be well recollected by many of our readers, that the practitioner who administered the narcotic was free from blame. The truth is, that the patient was treated energetically for a very severe attack of gall-stone colic; that he became narcotised after the passage of the calculus; was treated for the narcotism and recovered so as to travel from the west of Ireland to Dublin, where he died, as we have learned on unquestionable authority, of fatty degeneration of the heart. Whether the former treatment may or may not have accelerated the final issue of the case, it is not for us to say; but this we know, that a like accident in practice might befall

the wisest, best, and most careful practitioner, and that according to our judgment, the practitioner in question, never was so fully and completely exonerated as he should have been.

In conclusion, we can strongly recommend the work of Dr. Thudichum as the most learned and complete treatise extant on the subject with which it deals.

A Catalogue of Surgical Instruments, Apparatus, Appliances, &c., manufactured and sold by J. WEISS and SON, 62, Strand, London. 1863. 8vo.

THIS volume consists of fifty-three large plates, containing many figures with descriptive lists, and, though mainly a trade list, it contains an amount of information rendering it capable of being of the greatest use and importance to surgeons, especially to those practising in remote country districts. The contents are classified by bringing the instruments for the several operations together. The letter-press consists of three parts—the illustrated lists, interspersed throughout the plates—the classified list, in which the whole of the instruments are arranged as they are required for the various operations, and which contains descriptions of many instruments not figured—and, thirdly, miscellaneous lists, including those required for the different public services, &c.

It is not necessary at present to speak of the excellence of the instruments manufactured by Messrs. Weiss. The catalogue now published, affords to the most distant surgeon an opportunity of selecting those he may require, almost with the same facility as if he had them in his own cabinet.

PART III.

MEDICAL MISCELLANY.

Reports, Retrospects, and Scientific Intelligence.

PROCEEDINGS OF THE PATHOLOGICAL SOCIETY
OF DUBLIN.*

TWENTY-FIFTH ANNUAL SESSION, 1862-1863.

MR. HAMILTON, President.

Vesical Calculus.—MR. TYRRELL said that the specimen on the table, was taken from the body of a child aged six years, who had been admitted into Jervis-street Hospital on that day week, and died early the following morning.

On making a *post mortem* examination, he had reason to congratulate himself on not having performed any operation, as he did not believe it would have been possible to remove the stone from the bladder with the slightest chance of success. The history of the case was peculiar, and the following were the particulars given in a letter sent to him by the surgeon under whose charge he had been:—"John Church, aged 6, was three months old when placed in charge of the nurse who brought him to the hospital. The report of the nurse who had him for the first three months was, that he was subject to frequent attacks of pain in the ear, but was otherwise healthy. He was six months old when the nurse's attention was excited by his complaining of pain in the belly, particularly at night, at intervals of two or three months: soon after she observed a stoppage of water, for which she brought him to the Dispensary, and then was advised to take him to Baggot-street Hospital. She did so. He remained in the hospital about six weeks, when stone in the bladder was diagnosed: he was then three years old. The nurse removed him from the hospital, but promised to bring him back, but did not do so. The child was soon afterwards brought to him. With the previous history before

* These reports are furnished by Dr. R. W. Smith, Secretary to the Society.

him, he had no difficulty in diagnosis. He passed a small catheter occasionally, when necessary, drawing off at each time about three ounces of urine, which was highly albuminous, with copious flocculent deposit; the urine was continually dribbling away for the last twelve months."

When the students had assembled in the anatomical theatre of the hospital he introduced a sound into the bladder and at once detected a stone, which he now exhibited; and so audible was the "click" that it was heard by all present. He removed the stone by the supra-pubic operation, so as to allow it to be placed *in situ* in the bladder afterwards.

The stone found almost filled the entire cavity of the organ. On making the dissection to remove the parts, he was near mistaking the ureters for the colon, so enormously dilated were they—in fact, it was not until he traced them up to the kidneys and down to the bladder that he was certain of the tubes he was dissecting. They were as large as the large intestine, dilated at intervals, and full of pus. The kidneys presented a most remarkable appearance, very much enlarged, the cortical portion almost gone, and the medullary of a light colour; the pelvis of the organ enormously dilated, and likewise full of pus. The mucous membrane of the bladder was not diseased, but the muscular structure was very much hypertrophied, and the cavity very small. The case was almost unique; amongst sixty specimens of diseased urinary organs preserved in the Museum of the College of Surgeons there was not one in so young a subject with anything like the same amount of disease.

The case explained very well how the success of operations for stone depends less on the skill of the surgeon than upon the state of the urinary organs; for the operator cannot fail to reach the bladder with the instruments at present in use, if only cautious; and it is well-known that the native lithotomists of India very seldom lose a patient, although their instruments are of the rudest description.

The child died of a fit of the stone; and had he operated a week or so before, it would have been perfectly impossible for the child to have recovered. There is no doubt but that the child would have been operated upon, as the symptoms would have been attributed to the long irritation of the calculus; and, from the great success of lithotomy in children, and the rarity of disease of the kidneys at so early an age, a successful issue might be anticipated.—*January 24, 1863.*

Amyloid Disease of the Kidney.—DR. ROBERT M'DONNELL said that he wished to exhibit to the society a rather remarkable specimen of a not very common disease—viz., amyloid degeneration of the kidney. The following was the history of the case:—

Patrick Cusack, aged twenty-one years, first came under my notice June 14th, 1863, when he was admitted to the hospital of the Mountjoy Government Prison for a scrofulous abscess in the vicinity of the hip-joint.

He so far recovered as to be able to leave hospital on August 2nd; but was re-admitted on September 8th, at which time he was in the following state:—He complained much of debility, but did not appear to be emaciated. A second abscess was forming near the hip-joint, and on the leg of the same side was an old ulcer, which looked as if it were connected with diseased bone. He stated that no portions of bone had ever come from it or the abscesses near the hip. All round his neck were the traces of old scrofulous disease. The abscess near the hip was opened. He was ordered cod-liver oil and full diet, and up to September 27th seemed to be improving in strength. On that day he had a rigor, followed by vomiting and diarrhea, lasting for three days; after which he gradually fell into a state of fever of a low typhoid character. His pulse was very rapid and weak (130–40); tongue furred, but moist; prostration extreme. He had sweatings at irregular intervals, and had the aspect of a patient suffering from pyemia—indeed, for a time, I fancied that purulent absorption had taken place from the hip; which supposition was strengthened by the appearance on the abdomen of some small spots, a dozen or so, which became pustules. He never was delirious, nor had he any convulsions. The quantity of urine secreted was large; and it was so loaded with albumen as to become solid in the test-tube on boiling—its specific gravity was 1020. He never had had any swelling of the limbs, or any effusion into the serous cavities; and neither on this nor the former occasion, while in hospital, had this patient complained of any symptoms drawing attention to the kidneys. It was not until the supervention of the feverish attack that the urine was examined at all. The patient gradually sunk, and died on October 22nd.

Post Mortem.—The heart and lungs were found free from disease—the latter bound to the ribs by extensive old adhesions. The abdominal viscera were also healthy, except the pancreas, which was enlarged and indurated, and the kidneys, which were extensively diseased. These latter organs were much enlarged—one of them weighing nine and a half, the other ten ounces. To the naked eye they presented the appearance of having undergone fatty degeneration. In order to examine carefully the condition of the vessels of the Malpighian tufts one of them was injected with fine injection. The vessels of the tufts were so blocked up that the injection did not penetrate so as to fill a single Malpighian body. While examining, under the microscope, their sections, one could easily see the points at which the injection had ceased to flow within the vessels; beyond this point, when viewed with reflected light, it was not possible to follow the small vessels, or to see the Malpighian bodies themselves. On adding tincture of iodine a remarkable and very striking change was produced. This re-agent produced at once a peculiar discolouration of the Malpighian bodies and their different vessels, so as to make these parts as distinctly visible as if they had been injected—thus giving evidence of the so-called

amyloid degeneration of their structure. I have never met with a case of this degeneration that was so well marked and so extensive. The same, to a certain extent, had occurred to the vessels of the spleen and pancreas; but nowhere to so great a degree as in the kidney.

Dr. M'Donnell observed that there are two varieties of amyloid substance met with in the animal economy, which are quite distinct from each other; of one of which the degeneration now exhibited was a specimen, and which, although possessed histologically of the physical and optical characteristics of starch, yet can not be transformed into sugar capable of undergoing fermentation. Its analysis has been attempted by Schmidt, who has obtained results not favourable to the view of its amylaceous nature. Virchow also admits that he has been unable to form sugar from this variety of amyloid substance. Dr. M'Donnell had tried in vain himself to transform it into sugar, and has not, by any device hitherto thought of, been able to obtain it free from an admixture of nitrogen. The other variety of amyloid substance, discovered by M. Bernard, and well known to physiologists as a material formed by the liver, and entering into the formation of many of the tissues of the fetus, can be obtained free from nitrogen, and can readily be converted into fermentescible sugar.

The amyloid substance of the pathologist and that of the physiologist must, therefore, in the present state of knowledge, be regarded as distinct materials.—*January 27, 1863.*

Stricture of the Œsophagus.—DR. JENNINGS exhibited a specimen of malignant disease of the œsophagus, obtained from a patient of spare, though apparently healthy habit, aged 54, who, in the month of September, had applied to him for relief, in consequence of distress in swallowing, experienced for some time previously.

At this, the first interview, the transmission of solids was, and had been for some days, completely impossible; and even the passage of fluids was effected with great difficulty and attended with much suffering.

Though closely cross-examined, the man was most positive in asserting that his attention had never been directed to his state until about a month previously, during which period, however, the dysphagia had rapidly increased, absolute hunger at length compelling him to seek medical assistance. He also stated that he had never experienced pain to any great extent, except during deglutition, when he was sensible of a stinging sensation.

The history, and the absence of constant pain at first, induced him to hope that the obstruction might prove spasmodic, or be produced by the pressure of some glandular or other tumour. Having first satisfied himself, as far as possible, that no aneurismal enlargement existed, he attempted to introduce an ordinary-sized stomach tube. Not only, how-

ever, did he fail in doing so, but all subsequent efforts to pass even a No. 12-sized long catheter proved equally unsuccessful; and though, by the exertion of some force, he did introduce the point of the latter instrument a short distance within the stricture, yet the sufferings thus induced caused him to abandon further attempts; and from this date until the patient's death, on the 12th inst., he was kept alive partly by the small quantity of fluids which he succeeded in swallowing "*guttatim*"—but principally by rectal injections of beef tea, &c.

His emaciation was naturally rapid and excessive, and innutrition was the immediate cause of death.

A *post mortem* examination showed the left side of the chest to be perfectly healthy. On the right, however, there existed firm and universal pleural adhesions, evidently of long standing, binding down the lung, which was contracted in volume, dark in colour, and studded throughout with crude tubercles. In the immediate vicinity of the stricture were a number of enlarged and indurated bronchial glands, interspersed through which was a quantity of gritty matter resembling sand. On passing the hand along the spine, the seat of disease was readily detected behind the bifurcation of the trachea—a scirrroid induration of the œsophagus, which, though unconnected with the spinal column, was inseparably united to the "trachea"—in fact, completely amalgamated with it. In the stomach were found about six ounces of dark, thick, non-coagulated blood. Dr. J. considered that the insidious progress of the disease during its earlier stages, and its subsequent very rapid development, was worthy of notice; and that the inseparable connexion of the disease with the trachea well illustrated the tendency that malignant affections, when here situated, have to establish a communication with some part of the respiratory tract, warning the surgeon to be cautious in the attempted introduction of instruments or injection of nourishment into the stomach, especially should the disease have reached the stage of softening, or have happened originally to have been of the medullary species.

The truth of the latter remark, he stated, to be further corroborated by the history of a somewhat similar case which had come under his observation during the course of last summer, and which proved to be one of the malignant œsophageal ulceration. The patient, whose life had been for several weeks supported by the administration of the food introduced into the stomach through a long gum-elastic catheter, repeated every second or third day, suddenly arrested attention by the dreadful fetor of his breath, a symptom which, added to the expectoration of some offensive grumous fluid, proved that this communication had taken place. Some days subsequently, when the tube was being introduced, an escape of gas from its extremity was observed by his colleague, Dr. Shannon, and a lighted taper being applied to it, the flame was instantly extinguished, at once indicating the situation of the instrument, which, from the extent to

which it had entered, might fairly have been supposed to have reached the stomach. The complete immunity from distress which the presence of a foreign body of this description in the bronchial tube might naturally be expected to excite was in this instance most remarkable. An autopsy disclosed an irregular communication, as large as a shilling, between the trachea and œsophagus.—*February 21, 1863.*

Osteoid Cancer.—DR. ROBERT M'DONNELL brought the following case under notice of the society:—

James Breen, aged twenty-five years, first came under my notice in the beginning of June, 1862. He was a remarkably well-made young man, of rather light complexion, nearly six feet high; and as to muscular development, well proportioned. He complained of acute pain along the course of the sciatic nerve and its branches—more especially in the leg and foot. He had no symptom of disturbance of his general health; and his aspect was that of so robust an individual that, I confess, I at first was inclined to regard him as a malingerer. I was soon satisfied that his complaints were genuine; and on June 16th, 1862, admitted him to the hospital of the Mountjoy Prison, regarding his case as one of severe sciatica. He was treated with warm bath, counter-irritation, electricity, and anodyne liniments, without benefit. On July 20th my colleague, Dr. Banon, saw him along with me; mercurialization was suggested. Before determining to commence this plan of treatment, the patient was carefully examined. The right lower limb presented, in some respects, the appearance as in a person suffering from morbus coxæ; it was apparently lengthened, wasted, as compared with the left limb; and the fold of the nates was obliterated. Striking the heel gave pain in the neighbourhood of the hip-joint. The patient could not stand on this leg alone. On getting out of bed he grasped the thigh in his two hands; he never adopted the characteristic manœuvre of a patient suffering from morbus coxæ; and an important symptom of this complaint was wanting. On seizing hold of the thigh, and moving it so as to make the head of the femur rotate in the acetabulum, there was none of that instinctive rigidity of the muscles, producing what Mr. Adams has called vital ankylosis. The case being an obscure one, I hesitated to mercurialize the patient; and for a time continued the warm baths and other palliative treatment.

In the beginning of August a fulness was observed under the gluteus maximus, at its inferior margin; fancying that this might be caused by a psoas abscess (of which, in the groin, no evidence could be detected), pointing in a not very usual situation, I examined the patient while in a warm bath, when the muscles were quite relaxed. I then detected a hard, roundish tumour in the iliac fossa, as I should say, behind the caput coli. There was no feeling of fluctuation perceptible between the fulness in the gluteal region and that in the iliac fossa; neither was

there any impulse communicated on coughing to the gluteal swelling. I now arrived at the conclusion that my patient was the victim of malignant disease; and on leaving Dublin, at the end of August, I requested my friend who did duty for me in my absence, not to make even an exploratory puncture, lest it might accelerate the progress of the case, or be followed by a fungus springing from the opening.

On my return, after a month's absence, I found my patient greatly changed. He was peevish and irritable, greatly wasted, hollow-eyed and sallow; the tumour within, and that also without the pelvis, had increased greatly in bulk; the right leg was paralysed as to motion; the foot, leg, and back of the thigh, were absolutely devoid of the power of feeling, except a patch above the ham, which felt perfectly.

The nature of the complaint was only too obvious; and its progress now became rapid. Œdema of the penis and scrotum, followed by œdema of both lower limbs, came on suddenly, and to a dreadful extent. This took place, no doubt, at the time when the mass had so extended as to press on the ascending cava; and, at the same time, large veins first became visible over the tumour.

The œdema was relieved by acupuncture. Fortunately opiates agreed with the patient, and his excruciating pains were thus allayed. He suffered much from diarrhea; but sank very slowly. The tumour, before death, having arrived at this great size, without having at any point made its way to the surface. He died on February 19th, 1863.

The *post mortem* examination disclosed an enormous mass (the size of a man's head) of that form of malignant growth described by Paget and others as osteoid cancer. When cut across it was found to spring from each side of the os innominatum; and was, in great part composed of bony structure, although portions of it were devoid of osseous matter, and presented the ordinary character of colloid cancer. The appearances, both to the naked eye and microscopically, corresponded so accurately with the description of osteoid and colloid cancer, given by Paget, that one might suppose his account to have been taken from the morbid appearances in this case. Several isolated masses of colloid existed as independent growths in the gluteal and neighbouring muscles; the peritoneum was not engaged in the disease; neither were the mesenteric glands enlarged in any considerable degree. In the lung alone of the viscera were there found masses of cancerous matter—the largest not bigger than a filbert; some of these also contained bone, and, as to microscopic structure, were identical with the large tumour. The vena cava was completely plugged by a clot, which, although easily separated from the walls of the vessel, and nowhere continuous with the mass filling the iliac fossa, had, nevertheless, all the characters of the malignant structure. Microscopically examined, it was found to contain nucleated cells, identical in appearance with those of the cancerous growth from

the innominate bone and from the lung. The clot, also, at its lower part, was, in a great degree, converted into bone; the upper portion of it, in the cava near to the heart, was loose within the vessel, nodulated in a remarkable way, and contained none of the bony spiculæ found in the lower part.—*February 21, 1863.*

Femoral Hernia.—MR. TUFNELL exhibited a cast, and also the preparation, of a case of femoral hernia of unusual size. It was taken from the body of a woman sixty-six years of age, who was admitted into the City of Dublin Hospital on the night of the 25th of February. Twenty-six years back, upon the occasion of her first confinement, she complained of a sudden bursting sensation, situated at the outer border of the right thigh, followed by a hard tumour which remained, about the size of a plum. She had subsequently nine children, and at each successive delivery this tumour increased in size and hardness; but otherwise gave her no annoyance. About two years since a second tumour presented itself, situated towards the inner side. This tumour was reducible; and whenever it became inconvenient she could pass it back into the cavity of the abdomen, through what she described as being “a small hole about the size of the point of her little finger.” Within the last two or three months she had begun to be subject to fainting fits, and sometimes (after dinner especially) she would have to lie down upon the floor in consequence of pain in this tumour, it being so excessive. Upon the afternoon of the 25th, after dinner, she had one of these fits; and on recovering found that the tumour had become nearly the shape and size now exhibited in the cast—viz., oval in form, and fourteen inches across over its summit. It was totally irreducible. Mr. Tufnell saw the case about twelve o’clock on the morning of the 26th, and found the tumour tensely strangulated, irreducible under chloroform, after the introduction of O’Beirne’s tube, the administration of injections, &c. The tumour remained unchanged, and at three o’clock he operated. The operation was extremely difficult. The sac was excessively tense; it appeared to be not thicker than tissue paper, and the stricture was equally tight, and overlapped. When the size of the sac, which he exhibited, was compared with the mass it contained, as indicated by the cast, it could easily be understood how the sac should have been so tense, through the containing of so large a body. It consisted partly of intestine and partly of omentum, &c.; and the omentum was evidently the hard tumour which had existed for the forty-four years, and had been irreducible during the whole time. During each successive delivery an additional portion had come down, and it had never been returned. The patient lived for two days after the operation, but never recovered from the collapse.

The case was interesting from the unusual size of the tumour, and from the fact of the hernia being purely a protrusion of the omentum for

forty-four years, and then, subsequently, an intestinal hernia succeeding to it; and also it was interesting from the fact that after this long period of omental occupation of the sac not the slightest adhesion should have taken place.—*February 28, 1863.*

Disease of the Ankle Joint.—DR. ROBERT M'DONNELL said that the patient from whom the limb which he now exhibited was removed, had been admitted into Jervis-street Hospital on the 26th of January last, suffering from a dislocation of the right ankle, complicated with fracture of the fibula. The end of the tibia had been driven through the skin at the inside of the joint; the fibula had been broken a little above the outer malleolus. The patient stated himself to be fifty-six years of age; but looked much older. On admission the dislocation was readily reduced; but the case did not progress favourably. He was attacked with erysipelas, which, although it did not extend high up the limb, was followed by abscesses, accompanied by profuse suppuration and hectic. In consultation the removal of the limb was determined upon; and amputation was performed on Monday last.

The appearances within the joint were rather interesting. It contained pus, and was in a high state of inflammation; the synovial membrane very vascular; the cartilage almost gone, both from the astragalus and lower extremity of the tibia. In fact, the specimen exemplified remarkably well the process by which nature accomplishes the erosion of the cartilage, when a joint is attacked by disorganizing inflammation. The arteries of the amputated limb were like the trachea of a small bird from ossific deposit in their coats.—*February 28, 1863.*

Hemorrhagic Diathesis.—DR. FOOT exhibited some of the viscera of a boy who died from the hemorrhagic diathesis. He had been in the Meath Hospital under the care of Dr. Wharton, by whose permission the specimens were shown. The patient had been subject for more than a year to habitual bleeding, which had been, from time to time, checked by medicine and by pressure applied to the nasal cavity, whence the hemorrhage proceeded. He was on the verge of syncope on many occasions; and sometimes symptoms of cerebral anemia developed themselves. There was no history of any family peculiarity, or hereditary predisposition with respect to this diathesis. He was in hospital about Christmas; and after being very much relieved by treatment, went home. He had been very fond of, and had been much accustomed to eat salt meat—which he was desired not to do. He neglected this precaution; and about two days previous to his being last admitted, was attacked with bleeding from the right nostril. He was then in a restless, unmanageable condition, similar to that which is observed in women after childbirth, complicated with profuse hemorrhage, when they sometimes quite lose all self-control.

Having been told that his nose should be plugged, he made the greatest possible resistance; because he had previously suffered some pain from that operation. However, with a great deal of difficulty—as he was quite unmanageable—the right posterior and anterior nares were plugged. The plug, of lint, was steeped in a solution of the tincture of the muriate of iron; and though this was not the pure solution, but had a great deal of water in it, so much pain and reflex action were excited by the smarting of the styptic, that the posterior plug could hardly be kept in its place by the two cords. The anterior plug was at once sneezed out. He exclaimed that the plug scalded him; and he would soon have removed it had he been allowed. This pain subsided in a few minutes. The hemorrhage, however, did not return; but next day there was general anasarca. His pupils were contracted; he had marked cerebral respiration; vomited constantly, and died on the evening of the next day but one. The body was perfectly blanched, and presented no hypostatic congestion. Dr. Foot was anxious to find out whether the conditions exhibited in the body supported the opinions of the Berlin or Vienna school; and with this object examined the liver and spleen with great care, knowing the opinions held by Virchow—that every permanent change in the condition of the circulating juices must be derived from definite points in the body, from individual organs or tissues; and that in this dyscrasia the spleen is very liable to be at fault. In this instance the liver was normal in shape, size, and structure. The only thing to be noticed was that the colour was light; because the tint of the gland was altered by the absence of blood. The spleen was remarkably small—weighing but $2\frac{1}{2}$ oz.—shrunk up, and shrivelled like the spleen of a cholera patient. The kidneys were perfectly pale; the heart was hypertrophied, and the fibrin of the blood was represented by two small light red coagula in the right, and one in the left ventricle. The walls of the aorta were much thinner than usual at the same age. With respect to hypertrophy of the heart occurring in a boy aged only twelve years, he could only suppose it to be due to a similar cause as produced hypertrophy of that organ in Bright's disease. As the case did not, in appearance of local visceral origin, at all support the views of the Berlin school, he thought it might be explained according to the theory of Rokitanski, that a primitive anomaly existed in the blood—it being deficient in fibrin, albumen, and blood corpuscles. This hydremia, coupled with a preternaturally delicate and vulnerable structure of the vessel-coats, completed the conditions existent in the hemorrhagic diathesis.—*February 28, 1863.*

Disease of the Supra-renal Capsules.—DR. DUNCAN said he was indebted to Dr. Mayne for being able to show the specimen which he now presented, of bronzed skin disease. Dr. Mayne, not having been in attendance at the hospital at the time the patient was admitted, kindly

placed the woman under his care. The case, illustrated in every essential particular but one, all the symptoms and features of the disease, as originally described by Dr. Addison—namely, the age of the person and her appearance; the obscurity of its origin; the asthenia, without any sensible cause; the peculiar colour of the skin; the weakness and irritability of the stomach; the peculiar condition of the intellect; the suddenness of her death; and the implication of the supra-renal capsules.

The patient was an unmarried woman, about forty years of age; and had filled a confidential situation in a family of respectability for fifteen years. During her life she uniformly enjoyed good health. She was a woman of rather stout build, though of the ordinary size, with a good deal of flesh about her.

No assignable cause could be given, either from her circumstances, habits, or previous history, for the commencement of this disease. About a year and a-half, or, perhaps, two years, before her death, she began to feel a loss of strength; her appetite became bad; and she began to be affected with some irritability of stomach. About the same period, a change in the colour of her skin was noticed; but it was so trifling at first that it passed off for a long time without attracting any observation. It gradually increased, and became, at length, a source of anxiety to the patient. She came to the hospital on the 8th of March, and died on the 13th. The symptoms under which she laboured at the time of her admission were weakness, loss of appetite, and irritability of stomach, for which there was nothing in her general history to account. Her appearance exhibited the peculiar character of wasting described by Dr. Addison—her muscles were large and flabby, but soft; and the skin had not at all the appearance or feel, such as was usually met with in ordinary cases of emaciation. It was impossible to get her to take any nourishment from the time she came into the hospital, owing to the irritable state of her stomach. The condition of her intellect was peculiar. She was shy and uncomplaining; and it was difficult to get her to explain anything about herself; in fact she wished not to be noticed, or to give any opportunity for examining her. Her master, who took a great interest in her case, was told, from the first, of the possibility of her sudden death; but none of those who saw her had the slightest idea that it would occur so suddenly as it did, taking into account the small amount of emaciation which she presented. The day before her death a peculiar change took place. She was evidently much worse, and seemed like a person intoxicated. She was ordered wine; but had not taken any. She was restless and excitable, and did not seem to know the persons about her, or to take any notice of them; and when her master came in to see her she could barely be got to answer that she knew him. In the course of the evening an attack of diarrhea came upon her, and carried her off. In one respect the case differed

from that described by Dr. Addison ; namely, as regards the pigmentation, which he speaks of as being uniformly diffused over the body, whereas, in this instance, it was partial. The colour was very obvious in the face and the exposed parts of the neck and arms, and also at the flexures of the joints, upon the fronts of the thighs, and at the navel ; but the rest of the skin—contrary to the usual condition described by Dr. Addison—seemed to be very much of the natural hue. Dr. Addison's description embraced a uniform change of colour over the whole person, with darker shades at particular parts. The drawing by Mr. Conolly, which he now exhibited, gave a very accurate idea of the colour. The tint was slightly different from that given by Willis, in *Guy's Hospital Reports* ; but corresponded a good deal with what Dr. Willis described as the walnut-juice colour. He was, unfortunately, unable to make a complete *post mortem* examination. Her master refused to allow it to be done, without the consent of the woman's relatives ; and, after an hour had been spent in trying to obtain that consent, he was at last obliged to take, without leave, the kidneys and supra-renal capsules. The kidneys were perfectly healthy ; the capsules presented evidences of degeneration. At the head of the capsules was an appearance of yellow tuberculous or scrofulous matter. Dr. Richardson had kindly examined them under the microscope ; and though he had not made a perfect examination, the matter was found to consist, to a large extent, of inspissated, fatty globules, corresponding with the statement given in the last number of *Guy's Hospital Reports*, of some sort of chronic inflammatory degeneration, rather than anything else. In reference to the connexion between the two symptoms of the discolouration of the skin and the implication of the supra-renal capsules, Dr. Willis had very largely tested the matter in Guy's Hospital, by examining every individual upon whom a *post mortem* examination could be made—no matter what disease it might have been that proved fatal ; and out of 500 cases only two were met with in which the capsules were implicated, but in which there was no change of colour on the surface. On a closer examination it appeared that this exception was more apparent than real. In one of the two cases there was a change of colour on the surface ; but it was of so trifling a nature as to have escaped notice at first. In the other the supra-renal capsules were really not implicated ; but there was some disease on the surface of the gland, Dr. Willis, in his last paper on the subject stated that the essence of the disease was not the change of colour ; but the progressive asthenia, this peculiar form of asthenia, coming on at a particular period of life, running its course in opposition to every treatment, and ultimately killing the patient.

Whether the discolouration of the skin would, in the present instance, have extended over the whole body or not, had life been further prolonged, it was impossible to say ; but at the time of the patient's

death it had not extended beyond the parts delineated in the drawing.—*February 28, 1863.*

Malignant Tumour.—DR. FLEMING exhibited a cast and preparation of a malignant tumour, lately removed by Dr. Hutton from the right side of the neck, beneath the jaw. The patient was a man aged 45, seemingly otherwise in excellent health. The tumour had become as large as a moderate sized orange in the space of a year and eight months; its growth was unattended by pain, and it continued movable beneath the skin. Upon inquiring further into the patient's history, it appeared that he had, some time previously, received upon the forehead, a blow from a pistol, and that, in the situation of this injury, a small tumour grew up, which, judging from the treatment adopted, was probably regarded as malignant; it was destroyed by the application of the chloride of zinc.

Upon making a section of the tumour now presented to the notice of the meeting, its malignant nature was very apparent; and upon placing some of the more fluid portion of it under the microscope, the anatomical characters of cerebriform cancer became strikingly evident. A second and smaller tumour, which lay in close contiguity with the larger one, was removed along with the latter, and presented also the characters of malignant disease. Since the operation the case had gone on well, but it was obvious that the prognosis could not be otherwise than unfavourable. The remarkable healthy aspect of the patient, the perfect mobility of the tumour, and its obvious freedom from any deep-seated attachment, were the chief circumstances which induced Dr. Hutton to perform the operation.—*March 7, 1863.*

Cancrum Oris.—DR. STOKES exhibited two specimens of the disease termed "cancrum oris." One of them was taken from the body of a little girl, who had been for a long time in a state of extreme misery and want. She had been brought to an institution for destitute children, from which, after a few weeks, she was transferred to the Meath Hospital.

When she was admitted, it was very difficult, indeed, to give a name to her disease; she was emaciated to the last degree, made little or no complaint, lay quietly in bed, had a miserable appetite, and a quick small pulse; but there were no local symptoms whatever to be discovered.

In this state she remained for more than a fortnight, when it was observed, one morning, that the right eyelid was puffed and slightly livid; and on close examination, purulent matter was seen in the anterior chamber of the eye. It was evacuated by Mr. Porter, and very soon after the operation, the œdema of the lid subsided; but upon the following day it was discovered that the arch of the palate was destroyed. Within twenty-four hours, certainly, the bones of the palatine arch were gone,

and a probe could be easily passed from the nostril into the cavity of the mouth.

This was followed by a puffy swelling just below the *alæ nasi*; and in the course of a very short time sloughing of the soft parts followed. In this state the patient lived for several days; she was constantly crying and throwing herself about in bed, and died apparently from irritation.

The case, Dr. Stokes observed, was one of pure *cancrum oris*; there was not the slightest reason to believe that the child had got a single grain of mercury before entering the hospital. Many were of the opinion that there were two forms of the disease—one, the non-mercurial, the other the mercurial *cancrum oris*; but recent observations rendered it probable that the latter received the name from the fact of the symptoms having followed the use of mercury. But when they reflected on the very liberal, and frequently injudicious use of that medicine, the chances were, that in any given case of no matter what acute disease, the patient would have got some mercury. Dr. Stokes alluded to the papers published by Dr. Duncan in the *Dublin Quarterly Medical Journal* of 1845 and 1852, in which, he thought, this question had been very ably dealt with.

The second specimen which Dr. Stokes exhibited was procured from the body of a child brought to the Meath Hospital from the same institution as the girl whose case had been detailed. The patient was in the same physical condition, though not debilitated to the same degree.

The child had been attacked with measles of a low character; the debility was considerable; and from an early period of the exanthema, diarrhea was present, and continued during the entire illness of the patient, with but slight intermission. The eruption gradually subsided, and everything seemed to be going on favourably, when, after the child had been in hospital for more than a fortnight, the symptoms of *cancrum oris* made their appearance. The disease developed itself first on the mucous membrane of the cheek; at a very early period, indeed, the lower jaw had become denuded and carious, and there was a shocking fetor from the breath.

There was not at any period much external swelling; the little boy gradually sunk; the ulceration in the cavity of the mouth extended downwards towards the pharynx; his breathing became more and more obstructed, and in this condition he died.

It was an interesting fact connected with this case that, on dissection, there appeared not only the disease in the mouth but also a great number of points of *sphacelus* in the lungs, the pulmonary structure being replaced by collections of putrid sanies intermixed with the debris of the lung. In this respect the case resembled one brought before the society on a former occasion by Dr. M'Dowel, when the lungs became inoculated with fetid purulent matter, carried down by the lateral sinus and jugular vein from a carious temporal bone.

Upon examining the lungs after death, their texture was found destroyed in a great number of points, and in all these situations there had been deposited a fetid, sanious matter. So far as the appearance of the mouth was concerned, there was nothing to be observed that was not well known before; but those noticed in the lungs seemed to throw some light on the history of this putrid disease, and to show that a morbid poison was generated, which was conveyed to other parts and destroyed them. It was possible that the original nature of the mortification in these cases was analogous to that indicated by Sir Benjamin Brodie, and which he supposed proceeded in the first instance from the blood.

Dr Stokes next alluded to the early death of the bones in the cases he had brought before the meeting, and to the observations of the late Mr. Wallace on the occurrence of necrosis of the lower jaw in cases of cancrum oris. He exhibited a specimen, for which he was indebted to Professor R. W. Smith, showing one half of the lower jaw, necrosed, and, along with the teeth, enclosed in a new formed shell of bone. Professor Smith had brought this specimen before the Society in 1840, and had recorded it in the 17th volume of the *Dublin Medical Journal*, page 518.

In connexion with the disease he had brought before the meeting, he might observe, that it seemed to be closely allied to the affection of children termed "noma pudendi;" in fact, he was strongly disposed to consider them identical; and he might here direct the attention of the members to the excellent paper published by Mr. Wilde in the 27th volume of the *Dublin Quarterly Medical Journal*, upon the case of Greenwood, who was tried for rape on a child, in which he drew the attention of the Legislature to the error of overlooking this disease, and, in cases of supposed rape of young children, of attributing to violence, appearances which were caused by the disease now known as "noma pudendi." After a lengthened trial, Greenwood was found guilty of the crime attributed to him; but there could be no doubt whatever that, whether rape was committed or not, the appearances on which the conviction was obtained were those of the disease described by Mr. Kinder Wood in the 7th volume of the *Medico-Chirurgical Transactions of London*, as "a very fatal affection of the pudendum of female children." The question of course, would arise as to what was the value of finding the symptoms of noma pudendi in a case of supposed rape? Again, supposing that the patient had the disease, was the prisoner on that account to be acquitted? Certainly, if the symptoms and appearances of the disease were present, then all the medical evidence which ascribed the destruction of the parts to violence should be rejected.—*March 14, 1863.*

Intestinal Obstruction.—DR. MAPOTHER said he had been requested by Dr. O'Ferrall to exhibit this specimen. The patient, a young woman twenty-six years of age, was admitted into the hospital two months pre-

viously. She was perfectly healthy until July last, when, having partaken of a large quantity of unripe fruit, she was attacked, in a few hours afterwards, with intense pains. From that date she had been never entirely free from occasional attacks of colic. She suffered during the winter in the same state, with hardly any relief until a month before her admission into St. Vincent's Hospital, when she applied to a physician, who prescribed purgatives. These operated so severely that she fainted in the act of freeing her bowels next morning. She was admitted into St. Vincent's Hospital for extreme constipation; for ever since the extreme cathartic dose she had never been able to free her bowels without the use of medicine. When she came in, the extremely tympanitic state of the abdomen was the only striking symptom. She suffered no remarkable degree of pain; but during the month that she lingered in hospital she suffered three or four severe colic attacks.

On the morning of her admission she was examined by Dr. O'Ferrall, who found a tumour two inches in diameter, extremely hard to the touch. Throughout the case there never was the slightest inflammatory action, or pain or tenderness of the abdomen. The striking symptom was the extreme constipation. About a fortnight before she died she vomited an extremely large quantity of thin matter, smelling apparently of intestinal contents, but not completely feculent; it was of a yellowish colour, like gruel. All through there was no feculent matter discharged by stool. So complete was her rejection of food that during the last ten days that she lingered, none whatever was given by the mouth; but she was fed three times a-day by strong enemata of beef-tea. The tympanitic condition was peculiar: it did not extend over the entire abdominal cavity, but only existed in the neighbourhood of the umbilicus. There was not the slightest tympany on turning the patient towards the side and percussing the lumbar regions, which suggested that the obstruction was in the vicinity of the cecum. She also passed a great quantity of urine, which was healthy. She died on that-day-week; and, on a *post mortem* examination, they were remarkably struck by the enormous size of what could hardly now be called the small intestines. They were, when first removed, full six inches in diameter. The mass of small intestines in the neighbourhood of the cecum, together with the greater part of the lower portion of the cecum itself, were converted into a hard mass, which appeared solid throughout; but on making a section of the outer surface of it, and introducing a No. 1 catheter, it passed through a sinuous opening in the lower part of the cecum, and the opening of the vermiform appendix was completely patulous. There was, then, not the slightest passage from the cavity of the ileum into that of the cecum. At present some slight passage had taken place. There were, then, two strictures—one being a complete stricture of the ileo-colic opening. The rest of the colon appeared to be perfectly healthy. In the lower portion of the

cecum, which was more healthy than the other, he discovered two foreign bodies, which he now exhibited. One was a plum stone, and the other was a black substance, of a fibrous nature, resembling woody tissue, and seemed to be the fruit-stalk of a plum. The mass was extremely hard, but did not present any of the characters of colloid or other form of malignant disease. It was composed, microscopically, of a great number of undeveloped cells and fibres. All the other organs were healthy.—
April 25, 1863.

PROCEEDINGS OF THE DUBLIN OBSTETRICAL SOCIETY.*

TWENTY-FIFTH ANNUAL SESSION, 1862-63.

DR. BEATTY, President.

Report of Cases of Delivery by Forceps, in the Rotundo Lying-in Hospital, for Ten Months, from June 1st, 1862 to April 1st, 1863. By JOHN CRONYN, L.K.&Q.C.P., L.R.C.S.I., Assistant Physician Rotundo Lying-in Hospital.

I. June 3.—Johanna Doyle—primipara—aged 34, delivered at 7 30, p.m.; 16 hours in labour; $7\frac{1}{2}$ hours in second stage; 20 minutes third stage; first cranial position; fetal heart audible; male; inertia; 2 doses of ergot given without effect. Died, June 8, of uterine phlebitis.

II. June 15.—Norah Geoghegan—primipara—aged 30, delivered at 5 45, p.m.; 19 hours in labour; came in in second stage; third stage, 8 minutes; male; still-born; fetal heart inaudible; inertia. Died, June 21st, of metritis and peritonitis.

III. June 29.—Margaret Clare—primipara—aged 28, delivered at 7, a.m.; 31 hours in labour; came in in second stage; third stage, 10 minutes; male; first cranial position; fetal heart audible; inertia; head locked in pelvic brim; great difficulty in extraction; post-placental hemorrhage; dose of ergot, cold, &c. Discharged July 9.

IV. July 27.—Mary Cleary—primipara—aged 28, delivered 6, p.m.; 19 hours in labour; came in in second stage; third stage, 5 minutes; male; still-born; fetal heart inaudible; first cranial position; inertia; head in perineum for 7 hours. Discharged August 5.

V. August 9.—Catherine Mathews—third child—aged 30, delivered at 12, night; 19 hours in labour; 8 hours in second stage; 10 minutes third stage; first cranial position; fetal heart audible; male; inertia. Discharged August 17.

* These reports are supplied by Dr. Geo. H. Kidd, Secretary to the Society.

VI. August 12.—Margaret Barry—primipara—aged 26, delivered at 7, a.m.; 25 hours in labour; second stage, 7 hours; third stage, 10 minutes; first cranial position; fetal heart audible; male; inertia. Discharged August 19.

VII. August 13.—Eliza Bourke—second child—aged 36, delivered at 4 50, p.m.; 15 hours in labour; $2\frac{1}{3}$ hours in second stage; third stage, 5 minutes; face to pubes and hand to head; fetal heart audible. Discharged August 21.

VIII. August 15.—Bridget M'Dermott—primipara—aged 38, delivered at 7 50, p.m.; 30 hours in labour; twins; first footling; second head; membranes ruptured at the end of an hour, and dose of ergot given; in $2\frac{1}{2}$ hours forceps applied; child still-born; inertia. Discharged August 24.

IX. August 16.—Susan Barnett—second child—aged 24, delivered at 11, a.m.; 17 hours in labour; second stage, 8 hours; third stage, 20 minutes; male; first cranial position; fetal heart audible; inertia; post placental hemorrhage; dose of ergot. Discharged August 24.

X. September 19.—Teresa Adams—second child—aged 24, delivered at 10 30, a.m.; 13 hours in labour; second stage, 3 hours; third stage, 15 minutes; first cranial position; fetal heart audible; male; inertia; head on perineum $2\frac{1}{2}$ hours. Discharged September 26.

XI. September 27.—Mary Glinty—primipara—aged 28, delivered at 11 30, p.m.; 26 hours in labour; second stage, 6 hours; third stage, 25 minutes; first cranial position; fetal heart audible; male; inertia; hand to head; head on perineum 4 hours; post placental hemorrhage; dose of ergot. Died, October 3, of puerperal scarlatina.

XII. October 21.—Ann Reilly—primipara—aged 22, delivered at 3, a.m.; 12 hours in labour; second stage, 5 hours; third stage, 30 minutes; fetal heart audible; female; had one fit of convulsions. Discharged October 29.

XIII. October 30.—Margaret Magee—second child—aged 18, delivered 3 40, p.m.; $29\frac{1}{2}$ hours in labour; $7\frac{1}{4}$ hours second stage; third stage, 20 minutes; face to pubes; fetal heart audible; male; still-born; difficulty in extraction of head; shoulders hitched in pelvic brim; narrow pelvis; child large, weighing 10 lbs. 7 ozs. Discharged November 11.

XIV. December 11.—Mary Farnell—primipara—aged 19, delivered at 6, p.m.; 32 hours in labour; second stage, 7 hours; third stage, 5 minutes; third cranial position; fetal heart audible; inertia. Discharged December 22.

XV. January 12.—Jane Byrne—primipara—aged 25, delivered at 11 15, p.m.; 16 hours in labour; second stage, 8 hours; third stage, 25 minutes; first cranial position; fetal heart audible; female; chloroform; narrowing of pelvic brim and outlet from deformity of pubic arch. Died January 18.

XVI. January 23.—Ellen Daniel—primipara—aged 23, delivered at 7 15, a.m.; 22 hours in labour; second stage, $8\frac{1}{2}$ hours; third stage, 5 minutes; 3×2 cranial position; fetal heart audible; female; head on perineum for some hours; inertia. Discharged February 3.

XVII. January 23.—Mary Haddock—primipara—aged 20, delivered at 5 45, a.m.; 14 hours in labour; second stage, 5 hours; third stage, 40 minutes; first cranial position; fetal heart audible; female; chloroform; inertia; vomiting; great excitement; albuminuria; convulsions threatened. Discharged February 15.

XVIII. January 31.—Catherine Holdbrook—primipara—aged 19, delivered at 11 15, p.m.; $16\frac{1}{4}$ hours in labour; second stage, $8\frac{1}{4}$ hours; third stage, 45 minutes; first cranial position; fetal heart audible; female; chloroform; retained placenta from morbid adhesion; introduction of hand for removal. Discharged February 9.

XIX. February 8.—Eliza Murray—sixth child—aged 30, delivered at 6, p.m.; 11 hours in labour; second stage, 7 hours; third stage, 10 minutes; first cranial position; fetal heart audible; male; accidental hemorrhage; disproportion; head very much compressed; child born with suspended animation; restored by Marshall Hall's method. Discharged February 16.

XX. February 8.—Margaret O'Callaghan—sixth child—aged 32, delivered at 10 20, p.m.; 17 hours in labour; second stage, 3 hours; third stage, 15 minutes; first cranial position; fetal heart audible; female; disproportion; great excitement and hysteria; chloroform; delivered in hospital by forceps 9 and 5 years previously. Discharged February 18.

XXI. February 9.—Anne Byrne—primipara—aged 38, delivered at 12 15, a.m.; $33\frac{1}{4}$ hours in labour; $3\frac{1}{2}$ hours second stage; third stage, 30 minutes; first cranial position; fetal heart audible; female; inertia; great exhaustion and debility; hemorrhage, post placental; ergot, wine, brandy; very quick pulse. Died, February 14th, of uterine phlebitis.

XXII. February 21.—Eliza Corbett—second child—aged 30, delivered at 10 10, a.m.; 15 hours in labour; second stage, $10\frac{1}{4}$ hours; third stage, 15 minutes; first cranial position; fetal heart audible; male; chloroform; ergot 38 minutes before delivery; inertia; former delivery, in hospital, by vectis. Discharged March 5.

XXIII. February 22.—Catherine O'Neill—primipara—aged 16, delivered at 8 50, p.m.; $21\frac{1}{2}$ hours in labour; second stage, $6\frac{5}{8}$ hours; third stage, 15 minutes; first cranial position; fetal heart audible; female; convulsions; one very bad fit; delivered during fit; urine albuminous. Died February 24, of "peritonitis and pneumonia."

XXIV. February 26.—Sarah Farrell—primipara—aged 25, delivered at 11 50, p.m.; 18 hours in labour; second stage, $5\frac{2}{8}$ hours; third stage, 20 minutes; first cranial position; fetal heart audible; male; inertia. Discharged March 13.

XXV. March 10.—Martha Pierson—primipara—aged 21; twins; first born 3 15, p.m., second at 4, p.m.; 56 hours in labour; second stage, 6 hours; third stage, 30 minutes; males; inertia; ergot given without effect; first delivery by craniotomy, forceps being ineffectually applied; second by forceps; face to pubes. Discharged March 22.

XXVI. March 12.—Mary Fitzpatrick—seventh child—aged 36; delivered at 3 15, p.m.; 24 hours in labour; second stage, 9 hours; third stage, 10 minutes; fetal heart audible; male; very difficult extraction; very large child. Discharged March 20.

During the above period of ten months, the forceps were applied and deliveries effected in 26 cases out of 856 patients delivered in hospital, being rather over 3 per cent.

Of the mothers and children, in 17 cases both were saved, and in one both were lost; in 5 cases the mothers died, and the children were preserved; and in 3 cases the mothers recovered, and the children were lost. There were 17 primipara; 5 in labour of the second child; 1 of the third; 2 of the 6th; and 1 of the seventh. Of the 26 cases, 18 were for inertia, 6 for disproportion, and 2 for convulsions. There were 6 deaths of mothers—2 from uterine phlebitis, 2 from metro-peritonitis, 1 peritonitis and pneumonia, and 1 puerperal scarlatina. Of the children, 6 were still-born; in 4 cases the fetal heart was inaudible. In addition to the 26 cases detailed, the forceps were ineffectually applied in 3 other instances, and craniotomy afterwards resorted to.—11th April, 1863.

Dr. KIDD read the following paper on *The Mechanism of the Expulsion of the Head in Face to Pubes Presentations*.

The cases in which the head passes through the pelvis, with the face presenting to the pubes, are not numerous; thus, in Sinclair and Johnston's report, there are but thirty-three cases recorded, in 13,748 deliveries, in which this occurred. This circumstance will probably account for the fact, that in the majority of systematic treatises there is no account given of the mode in which the head escapes from the outlet of the pelvis in such cases. In one book, however, which has recently come under my observation, the subject is incidentally alluded to in connexion with the directions given as to the use of the forceps, when it is requisite to afford assistance in such cases. The directions are so peculiar, and so much at variance, not only with what I consider to be the true mechanism of such labours, but with my own experience and mode of operating, that I think it well to bring the subject under the notice of the society. I shall read the passage I refer to, as it occurs in *Bedford's Principles and Practice of Obstetrics*, first premising that Dr. Bedford uses a forceps with a second, or lateral, curve, and, when operating, places the patient on her back, the hips brought to the edge of the bed, and the feet supported by an assistant at each side:—

"Second Position—the Occiput, regarding the concavity of the Sacrum, the Face to the Pubes.—It will at once be seen that the head here is completely reversed; and, moreover, in this position the forceps will, in the majority of instances, be indicated for the reason of the protraction of the labour; for you are not to forget that the occiput, being posterior, must have traversed the entire length of the posterior wall of the pelvic cavity—consisting of the sacrum and coccyx—before it can make its exit; and, as a general rule, the increased duration of the labour will have so far perilled both mother and child as to render it necessary to resort to the forceps. But, in addition, any of the accidents already mentioned would constitute another motive for the use of the instrument. The rules for the introduction of the forceps are precisely the same as in the first position. It is well, however, to remember that there will be more difficulty in the extraction of the head in this second position, and the force employed should be more guarded, for the face cannot be brought under the pubes with the same facility that the occiput was in the preceding case, because of the greater irregularity of its surface. Again, the distension of the perineum will be much greater because of the rounded and more prominent configuration of the occiput. It must also be recollected that in this position the forceps, as soon as the head begins slightly to protrude, instead of being elevated, must be depressed, for the purpose of bringing the chin from the sternum, so that when the head is delivered the instrument will be at a right angle with the spinal column."

I do not stop to criticise the statement in this passage, as to the forceps being required in the majority of such cases, but pass at once to the direction that "the forceps, as soon as the head begins slightly to protrude, instead of being elevated must be depressed, for the purpose of bringing the chin from the sternum, so that when the head is delivered the instrument will be at a right angle with the spinal column," as it is, I believe, founded on a mistaken view of the mechanism of such labours; and it is to this point I wish to direct the attention of the society.

With a view to the illustration of what I conceive to be the true mechanism of such presentations, I will narrate two cases:—

On 21st September, I was called to see Mrs. —, an out patient of the Coombe Hospital, residing in Ardee-row, in labour of her first child. The membranes had ruptured early. I saw her at noon. The head was at the brim of the pelvis; the anterior lip of the os uteri was rigid; she had vomiting and restlessness; her pulse was quiet; the head in the fourth position of Nægelé. I ordered an opiate, and saw her again at 3, p.m., when no advance had been made, the anterior lip still retarding the progress. I pushed up the lip, and applied the forceps, but could not move the head without using more force than I thought advisable, and therefore withdrew the instrument.

At 4 30, Dr. Churchill, in the absence of my colleagues, Drs. Sawyer and Ringland, saw her with me. No advance of the head had been made; the anterior lip had again descended; the pains were troublesome, but not effective. We ordered a dose of ergot, and that the anterior lip, which was still down, should be supported.

At 8, p.m., I again saw her, when I had the benefit of the assistance of both Drs. Ringland and Sawyer. The ergot had produced ergotic pains, the lip had gone up, and the head was slightly lower in the pelvis. I again applied the forceps, and with great difficulty effected delivery. I made some effort to turn the head into the first position, but could only move it very slightly, and with the next pain it resumed its former place, and I extracted it with the face to the pubes, allowing the head, as it came to the outlet, to determine, in a great degree, its own course. As soon as the forehead came under the symphysis pubis it rested there, and the occiput began to make the sweep of the perineum, when it was necessary to carry the handle of the forceps forwards, between the mother's thighs, and even more up on the abdomen than when the head is in the first or second position.

The rectum did not at any time open out, nor did the perineum become as much distended as in delivery in the first and second position.

The child was still-born, in consequence, I believe, of the ergot. The mother recovered. The sphincter ani was not injured.

The next case was one of labour at the eighth month, with a roomy pelvis, and a putrid child, with the bones of the head separated. On visiting her I found a portion of the scalp protruding through the vulva, the face to the pubes, and the pains inefficient. I made an assistant keep his hand on the uterus and make pressure, and, grasping the scalp, made such traction as I could. The pressure over the uterus seemed to help its contractions to expel the child. The head came down till the chin cleared the arch, and then the occiput swept over the perineum.

These cases appear to me to illustrate the mechanism of expulsion in such labours under two conditions:—1st. When the head is large, and fits the pelvis closely, the head descends till the forehead, where it joins the nose, rests on the arch of the pubes; here it rests, as the occiput does in the first and second position, and the occiput makes a sweep of the perineum; but in the second case, where the head was small and softened, it descended lower, and the chin emerged before the rotation began or the occiput swept the perineum; and I would lay it down as a rule that, when it is necessary to use the forceps in face to pubes presentations, the handles should be carried well forward as soon as the forehead emerges from under the arch of the pubis.—*11th April, 1863.*

Forceps.—At the opening of the meeting of the 8th of May, the PRESIDENT made the following statement:—

Before we proceed to the regular business of the society, I wish to ask your attention for a few minutes to a circumstance arising out of a passage in the address which I had the honour to deliver at our first meeting this session. In alluding to Dr. Graily Hewitt's highly practical and very valuable paper, in the 3rd volume of the *Transactions of the Obstetrical Society of London*, I said the forceps described and recommended by him, corresponded in every particular with my forceps, described and represented twenty years ago in the *Dublin Medical Journal* for 1842; so much so, that one would be disposed, at first, to think him guilty of piracy—but that I entirely acquitted Dr. G. Hewitt of any such intention, as it was very likely he never read my paper or saw my engraving. I was led into what I now find was a mistake by the manner in which Dr. G. Hewitt described his instrument. He says:—"The length of the blades is eight inches instead of six and a-half or seven, and the curve is an arc of a circle of fourteen inches in diameter, instead of ten or eleven." The plate accompanying Dr. Graily Hewitt's paper, represented an instrument so like mine that, taking his account of the length of his blade, I was at once struck with the resemblance, and noticed it as a coincidence, but never for a moment considered it a copy. In the description of my forceps, I mention that the length of the blade to the lock is eight inches, just what Dr. Graily Hewitt states his to be; and thus the error arose. In a correspondence which I have had with Dr. G. Hewitt, he states:—"You are not quite correct in saying my forceps is identical with yours; I have carefully examined your plate, and I find that my forceps has a longer blade than yours; the two are in the proportion of eleven to ten. When I say my forceps is eight inches long, I do not mean that it is eight inches from the point to the lock, but that it is eight inches from the point to the crossing of the blades when locked. From this it results that my instrument has a working length about seven-tenths of an inch more than yours." Dr. Graily Hewitt has kindly furnished me with a diagram, representing the two instruments in juxtaposition, which I have now the pleasure to submit to your inspection, and from it you will perceive that Dr. G. Hewitt is quite correct in what he has stated. I forwarded one of my instruments to Dr. Hewitt, with a request that he would kindly send me one of his, and I am happy to say, he at once and most promptly complied with my wish. It affords me very great gratification to be able to exhibit the instrument to you this evening, and thus to give you an opportunity of seeing that there is a difference between the two instruments. I very much regret the error into which I was unintentionally led, but it entirely arose from Dr. Hewitt's not mentioning the points from which his measurement was taken in his original paper. If he had explained, as he has since done, that he did not adopt the usual mode of measurement, this mistake could never have occurred.—8th May, 1863.

Ruptured Uterus.—Dr. J. R. KIRKPATRICK exhibited a ruptured uterus taken from a patient who had been delivered in the Lying-in Hospital. The rupture was at the right side of the uterus, extending through the cervix, and upwards for about three inches. A large quantity of blood was effused in the cavity of the abdomen, round the seat of injury. The structure of the uterus did not appear to be diseased. The patient was a delicate sickly-looking woman, 30 years of age. It was her fifth pregnancy; her former labours had been easy. She had been two and a-half hours in the second stage, when rupture took place. The head was the presenting part, and was hydrocephalic, containing 32 ounces of fluid. The labour pains had not been strong, or bearing down at any period of the labour. Craniotomy was immediately performed; but she sank and died in six hours after delivery—*8th May*.

Cursory Remarks on Scarlatina; relating chiefly to its Natural History and Treatment. By HENRY KENNEDY, M.B., one of the Physicians of Sir Patrick Dun's Hospital.

At a late meeting of this society, the chairman, Dr. M'Clintock, suggested that the debate then going on, in reference to Dr. Halahan's paper on "Puerperal Scarlatina," might be adjourned with advantage. Acting on this hint, I venture to bring the disease, as it is usually met amongst the young, again under notice. When, many years since, some account of scarlatina, which then prevailed for a lengthened period in Dublin, was published by myself, I had not enjoyed those opportunities for treating it which have occurred since; for what I have now to offer has reference mainly to treatment. Two points only I would premise here:—First, that the remarks will be strictly cursory; and so I will only notice such parts of the subject as I believe to be of importance; and, secondly, that the remarks will be taken in a general way—that is, as being usually applicable. General principles, I believe, are all that should be attempted in speaking of the treatment of any disease, for every case must be dealt with according to the symptoms it presents; and, what is of more consequence, every one must learn this for himself. I would not make the former remark, but that some recent writers, amongst whom may specially be mentioned Professor Bennett, of Edinburgh, have endeavoured to render the treatment of some acute diseases, as pneumonia, quite a routine. On this point I shall only say here that the cases detailed by the Professor himself afford a flat contradiction to his theory.

And now, as to the more immediate subject of my remarks; and, first, of the sore throat attending scarlatina. Is the treatment by caustic too indiscriminate? I rather think so; and I believe I have seen mischief, in the shape of the external swellings, come on as a consequence of caustic being applied to the whole of the inner throat. And, if we consider

the extent of surface inflamed, and the constant secretion going on from it, there appears to me sufficient reasons for, at any rate, exercising caution on the point. Of late years, I have used caustic to the ulcerated parts alone, and this only when the surface was very painful; for all whom I address must be aware of the very marked contrasts which exist amongst patients—some suffering a great deal from the act of swallowing, &c., and others literally nothing. When, then, the former state exists, the destruction of the surface of the ulcer by lunar caustic is usually followed by marked relief, and is, of course, judicious.

Cleanliness, and the removal, as far as may be, of all the secretions from the throat, I believe to be of very much greater consequence than the use of caustic; and, where the patients are of such an age as to be unable to assist themselves, by gargling or otherwise, too much attention cannot be given to the point; and, with the assistance of such an elastic bag as is used for syringing the ears, a great deal may by this means be done. I am the more anxious to call attention to this, because it has, I have found, much more to say to the welfare of our patients than might at first sight appear. I mean the removal, as far as lies in our power, of the morbid secretions poured out, which may do injury in more ways than one. They may keep up the vomiting, which, as all know, so often ushers in the attack in the severe cases of the disease, but usually subsides within the first thirty-six hours. It may, however, last very much longer, and become most serious; nor could I attribute it in those cases I have seen to other cause than the secretions being swallowed, and, acting on this idea, have arrested it by the use of an emetic, which is an old and popular remedy at the beginning of the attack, but which, it is not so generally known, may be used with good effect much later. The following was a case in point:—

CASE I.—Miss —, a young lady of fifteen, was seized with a sharp attack of scarlatina, ushered in by severe vomiting and purging; after thirty-six hours the latter ceased, but the vomiting continued, in spite of treatment specially ordered to control it; and so went on for a whole week. During this period she got a certain amount of broken sleep, and I observed that it was after it she always had the vomiting, which was preceded by nausea, of which she complained much. In this state she was given a mustard emetic, which acted strongly; but it had the effect of at once putting a stop to the vomiting and nausea.

The principle of using emetics at this late stage of the disease I believe to be worth keeping in mind; and Copland, I find, recommends the same. It may be mentioned that I have often used them in common fever, and with advantage, at the same stage.

In place, however, of the stomach being the organ which suffers, or appears to suffer, from the morbid secretions, it may be the bowels, showing itself by diarrhea—not that which so often ushers in the attack,

but a recurrence of it, or even a tendency to it, at the end of a week or longer. This state always demands a special attention, for I know of none so apt to be attended or followed by serious complications. No single symptom, I believe, ought to guide our prognosis more than this one. A confined state of the bowels is safety in comparison; and something of the same obtains, I rather think, in some cases of puerperal fever.

Of the complications which may arise at this stage of scarlatina—that is, after the patient has been seven or eight days ill—I shall here only call attention to the secondary fever. All know that in small-pox secondary fever very commonly, though not always, comes on, and is frequently the cause of death. But it is not so generally known that exactly the same thing occurs in scarlatina; and as regular typhus as it is possible to be, with the exception of the spots, may arise. It is best marked when the disease attacks adults; but it is also to be seen amongst children, and, both in adults and children, may be the direct cause of death. Hence it is of importance to be aware of such a point in the natural history of scarlatina, for to be forewarned is to be forearmed. The occurrence seems to be due to the absorption of the morbid secretions, just as takes place in small-pox, and is an additional reason for paying every attention to the point already spoken of this evening—that is, their removal, as far as lies in our power. On the treatment of this kind of fever I have nothing specific to offer. It resolves itself into the general principles which are applicable to all acute diseases of a low type, which must, of course, be modified according to the demands of each case.

Of the medicines which answer best in scarlatina the acids appear to me to merit the first rank. I have found them far superior to either the chlorate of potash or the much-vaunted carbonate of ammonia. Cases do occur where the fever presents more of the sthenic type, and in which the chlorate may be given with good effect. It acts very generally on the skin, and so relieves the patient. But it must always be watched; for cases are not uncommon where the alkaline treatment, as I may call it, so far from doing good, does positive harm, by causing rapid waste of the system, and having a strong tendency to run off by the bowels; and this seems to me still more marked with the carbonate of ammonia, about which salt a special work has been written—I forget by whom—giving it the most unqualified praise in the treatment of scarlatina. Against such a use of it I must hold out a caution. We must never overlook now the effects of alkalis—and these, it will be recollected, are established facts—on the frame, even in health. But when, in addition to this, we recollect the type which most acute diseases have assumed of late years, there appears to me to be the strongest grounds for exercising a great caution on the matter; and the rule I would venture to lay down would be, that if the fever presents the sthenic type, with a hot dry skin and full

bounding pulse, alkalies may then be given with advantage; but the moment these subside our medicines should be changed to those of the opposite class. Cases of this type are, no doubt, exceptional; still they do occur. It may be added that this principle, which I hold to be most important, does not apply to scarlatina alone, but to almost all the acute diseases of the day.

It has been already stated that the treatment of scarlatina by acids is that which answers best. Of these the muriatic, in the proportion of one or two drachms of the dilute acid to the pint of fluid, seems to suit well. This medicine was a great favourite of the late Sir Henry Marsh, who used it in acute diseases of the low type, including common fevers; and, whether it be due to the chlorine or not, it certainly seems to possess marked antiseptic powers. It was very much used by the older writers, of the last century, and in the same type and class of diseases; so that it has a large experience in its favour, and has, besides, the advantage of being readily taken by children.

But there is another form in which this acid may be used; and, from what I have seen of it, one very likely to be more largely given than it is at present—I mean the tincture of muriate of iron. Within this two years I began to give it in scarlatina, having been led to use it, in the first instance, in a case where erysipelas attacked the face, just after the rash had declined, and fever had risen a second time; and here its effects seemed very decided. It is curious, of nearly all the cases where erysipelas appeared with, or just after, scarlatina, the former came out of the nostril, if I may so speak, and spread then over the face. The exceptional cases occurred in puerperal scarlatina, and then the erysipelas came from the vulva.

Did time permit I could give cases of the two diseases occurring together, and treated, with success, by the preparation of which I am speaking. But I must hasten on; and shall only say that its use in such cases led me to give it in the simple disease, and I think I may say with advantage. In the cases in which it was tried it seemed to act even more favourably than the simple muriatic acid; that is, by apparently shortening the stages of the disease; but it is not of such general application as the simple acid. It was given as follows:—Tincture of muriate of iron, two drachms; syrup, half an ounce; distilled water to four ounces; a tea-spoonful in water each three hours. I am not aware whether anything on this preparation has yet appeared in print as being used in bad scarlatina; but I have learned that others in this city have so used it. Professor M'Dowel is one of these.

To the use of anodynes during the progress of the disease I would call the attention of the meeting, as I believe them to be little, if at all, used as they deserve. Many years since, I satisfied myself, by *post mortem* examination, that whether we had raving, convulsions, or coma to deal

with, these were not dependent on inflammatory action; and, besides, the late Dr. Graves, who wrote so ably on scarlatina, had given a full trial to the antiphlogistic treatment, but without a corresponding success. These considerations led me to the conclusion that, as it was some irritation we had to contend with, so there was the greater probability that anodynes might be of use, and under this idea they were given; and, as it was mainly children with whom I had to deal, the tincture of hyosciamus was, as a matter of prudence, the one chosen. That it acts, and powerfully too, on children does not admit of doubt, no matter how we may explain Mr. Donovan's experiments; and enough of experience has, I think, now been afforded to enable me to speak with some confidence on the point. When the raving or great restlessness exists, the tincture is given, either as a draught at night, or in small but continuous doses, till rest or quiet is obtained; and in this way the dose has varied from half a scruple to three drachms at once. Opiates, I should say, have also been tried; but they require at least as much caution as in common fever; and with children to deal with, it is best, as a whole, not to use them. The idea of giving anodynes at all may, very probably, have arisen in my mind from Dr. Graves having so strongly recommended tartar emetic and opium in certain stages of fever; for the class of cases of scarlatina of which I am now speaking affords the closest analogy to the cases in which that physician gave the tartar emetic and opium. At any rate the principle is one which seems to me well worthy of being followed, and as such is mentioned here.

In connexion with, at least, some of the cases of raving, and of others where none exists, there is a point in their natural history worthy of note. I mean the occurrence of crisis, just as marked as ever occurs in common fever, and most generally by sweat. I am not aware of having read this anywhere; but I have now seen the pulse fall from 120 to 80 within the twenty-four hours, at the same time that a general perspiration was present, too frequently to have any doubt on the matter. The same thing, too, may be met with in measles; and the possibility of its occurrence should not be forgotten, as our treatment will be modified by it.^a

In the last place, I would make a few remarks on the use of wine, and which, it may be recollected, was one of the chief topics brought forward in Dr. Halahan's paper on Puerperal Scarlatina. Whilst agreeing with him in the general principle of the great benefit to be derived from its free use, I wish I could consider it as an agent on which we might at all

^a In this present month (May, 1863,) a boy, of sixteen years of age, was admitted into Dun's Hospital, labouring under a very severe attack of scarlatina. He had a rapid pulse, livid extremities, a dark eruption, and raving. Whilst being treated with wine, tincture of muriate of iron, and an anodyne, at night, with the rash still out, a marked crisis by sweat appeared, and within thirty-six hours this case could be pronounced out of danger. My colleagues, Drs. Smith and Moore, saw the case.

rely as much as he seems to think we may. I have seen it fail too often, in puerperal cases especially—and even given very freely—to have such confidence in it. The truth is, wine, though having some other valuable qualities, must be looked on as mainly a stimulant. On the other hand, puerperal scarlatina, at least as I have seen it, and even in numerous cases of the simple disease, presents characters which show a profound alteration in the blood itself. Patches of redness, spots of purpura, sometimes erysipelas, an extraordinary tendency to stripping, &c., all betoken this, and force us, as it were, to employ some agent or agents which may counteract such tendencies. Whilst, then, I would not for one moment think of discarding wine, I would not trust it alone, but conjoin with it such medicines as the experience of the day warrants; and amongst those I believe none holds out a better prospect than the muriatic acid and the tincture of muriate of iron, of which I have already spoken. To these it might be well to add the internal use of barm, which, in cases of common fever, I have often seen used with marked benefit; I mean fever presenting all those bad signs which puerperal scarlatina, in its worst form, exhibits. I may mention, that one of the few cases of the latter disease which I have seen recover, did so under the use of barm and wine; and it appeared to me improvement directly followed the administration of the barm, for she had been getting wine previously.

In speaking of the use of wine in these cases it may be well to know that, just as occurs in simple fever, cases are common where it is not borne well. The patient either refuses it, or the symptoms do not better under its use. In these circumstances it is always best to take the hint, and act accordingly by not pressing it.

In those cases of scarlatina where wine is required, it is usual to combine with it fluid food, such as beef tea or chicken broth. Now, I do not deny that in many instances this is quite right; but I would venture to suggest that a proper discrimination be made. It seems to be a general impression that if wine be suitable beef tea must be so likewise; and we are told to keep up the patient's strength by all means. Now this seems to me a serious mistake, and in no acute disease more so than scarlatina; but, having spoken generally on this point in another place, I shall only add here, that if it be not attended to, and a proper judgment formed in each case, secondary inflammations will be sure to arise, and so render most serious what would otherwise have gone most favourably through its several stages.

In concluding these cursory remarks, which may well be entitled "*disjecta membra*," the meeting will probably allow me to recapitulate the heads of the several points which have appeared to me worthy of their notice:—In the natural history of the disease there were the occurrence of vomiting at a late stage of the attack—the supervention of secondary fever, quite analagous to what occurs in small-pox—and the

occurrence of crisis, as marked as is seen in common fevers; and on the treatment, the more restricted use of the nitrate of silver to the inner throat—the use of emetics at a late stage of the attack—the very questionable benefit arising from the use of alkalies, including the carbonate of ammonia—the use of anodynes, especially the tincture of hyosciamus, as best suited to children—the administration of the dilute muriatic acid, and its combination with iron—and, lastly, the importance of separating wine in its effects from those of beef tea, the effects of the two being in very marked contrast.—*8th May, 1863,*

DR. DE RICCI read the following paper *On the Use of Sulphites and Hyposulphites in the Treatment of Zymotic Diseases*:—

Professor Polli, of Milan, has, for several years past, devoted much of his time to the investigation of zymotic diseases in general, but more especially of those which depend upon purulent absorption, with a view, if possible, to discovering an agent which would be capable of destroying those fermenting principles which are supposed to be the cause of these diseases, while it would be, at the same time, innocuous to the constitution. In May, 1862, *The Dublin Quarterly Journal of Medical Science* published a short review on Dr. Polli's work *On the Use of Alkaline Sulphites in the Treatment of Diseases depending on Morbific Ferments*, and that valuable periodical fully recognised the importance of his researches. Since that time I have been in direct correspondence with the Italian professor, and, having received from himself much additional information, together with the request that I would prominently bring the subject of his investigations before the medical profession in this country, I have complied with his request, and do so at present by laying a brief sketch of his labours and results before the Obstetrical Society of Dublin.

I should have been happy if I could have brought additional personal evidence of my own to corroborate Dr. Polli's accounts, but, unfortunately, my opportunities have been very limited. I have, however, proved to my complete satisfaction that the sulphites of soda, potassa, and magnesia, which are the remedies he relies on in cases of purulent infection, can be freely administered to human beings, even in large doses and for a considerable time, without producing any disagreeable consequences; and this fact will, I trust, induce many to give a trial to these substances in every case they may appear to be indicated, in order to test their real value.

I do not stop now to argue whether these so-called zymotic diseases really depend upon the presence in the circulation of a special ferment, as their name would imply; it is generally thought to be so, and for the present we must take it for granted, as Professor Polli bases all his theory and practice upon that assumption. The great physiologist Bernard held this view, and believed "that fermentation may arise in the blood, and

give origin to poisonous principles, which may, in their turn, produce certain grave accidents in the living frame;" but adds:—"We cannot neutralize these ferments in the living organism; *it is impossible*; because, to effect such a purpose, it would be necessary to interfere with the characters of the blood to such a degree that it would no longer be capable of maintaining life." The Italian professor, however, thought differently. He had long been studying the antiseptic effects of sulphurous acid upon animal substances; he had established, by repeated experiments, that animals recently killed, if suspended in a well-closed vessel, containing but a small quantity of a solution of sulphurous acid in water, just sufficient to supply, by evaporation, a slight atmosphere of sulphurous acid gas, would keep perfectly fresh for months. He also established, by direct experiment, that sulphurous acid, in very small quantities, had the power of preventing not only the ordinary vinous fermentations—a fact well known in all wine countries—but also those other fermentations, such as the diastatic, by which starch is converted into glucose, that of the pancreatic juice upon fatty substances, and that of emulsine upon amygdaline; and he came to the conclusion that in sulphurous acid we possess a substance capable of arresting every form of catalytic action. But sulphurous acid could not, with impunity, be introduced into the animal economy; so the professor turned his attention to the compounds of sulphurous and hyposulphurous acid, which, by analogy, he hoped to find equally capable, though probably in a minor degree, of arresting the action of ferments. He was not disappointed. He found that the action of the sulphites of soda, potassa, and magnesia was quite as decided as that of the acid itself in preventing fermentation; while, at the same time, he fully established the fact, that an animal, such as a dog, can take as much as fifteen grammes (225 grains) of an alkaline sulphite per diem, during a whole fortnight, without any inconvenience. I can fully corroborate the assertion of Dr. Polli so far; and am happy to be able to add my testimony to the fact of the perfect tolerance, by even the human stomach, of the sulphite of soda in full doses. I have often prescribed it, during the last two years, in doses of as much as one drachm three times a day, without producing the slightest gastric derangement; and, although I have not, as yet, had an opportunity of testing its value in a case of either pyemia, puerperal peritonitis, or glanders, still the results I obtained in the cases I employed it have led me to hope much, from its extended use in all diseases arising from purulent infection or septicemia.

Before relating, however, the results of my small experience in this matter, I wish to lay before the society some further account of Professor Polli's investigations. Having satisfactorily proved to himself that animals can bear with impunity large doses of sulphites, he took three dogs of about the same size; two of these he fed upon food containing

sulphite of soda, the third he fed exactly alike, only minus the sulphite. After twenty-four hours the three animals were killed, and, by analysis, he discovered the presence of the sulphite in the blood, the liver, and the urine of the first two dogs, while, as might have been anticipated, he found none in the third. This was a very valuable experiment. It proved that the sulphites, *as such*, were carried into the circulation; and, if they were able to prevent and even arrest the action of an animal ferment outside the body, Professor Polli argued that they might equally prevent or arrest the action of a ferment within the body; and, as the dogs which had been largely dosed with sulphites had shown no bad effects from it during life, nor any organic lesion from the use of them when examined after death, they having been purposely killed while still under the full influence of the sulphites, he concluded that in all probability we possessed in the compounds of sulphurous acid, with earths and alkalies, a means of arresting catalytic action in the animal economy without in any way interfering with the vitality of the blood—contrary to Claude Bernard's assertion, that any substance capable of destroying the action of a ferment in the living body would exert so destructive an action on the blood itself, as to imperil its vitality. Professor Polli now varied his experiments. He administered two grammes of sulphite of soda daily to a dog, for the space of five days; at the end of that time he drew off two ounces of blood, and exposed it to the air in an open vessel, beside another vessel containing blood drawn from a dog to whom no sulphites had been given. In a very few days the blood of the latter dog was quite putrid, while that of the dog which had been dosed with the sulphites was perfectly fresh even three weeks later. Two great facts had now been arrived at:—1st. That sulphites, when administered to a living animal, are carried, *as such*, into the circulation, and diffused all over the organism without the slightest inconvenience to the animal; and, 2nd. That the presence of these salts in the liquids and solids of the body retards the putrefactive fermentation for a very considerable period. Dr. Polli, having obtained such encouraging results, proceeded to more crucial experiments. He took two dogs of about the same size, and equally in good health; he fed them exactly alike for five days, with the exception of administering to one of them two grammes of sulphite of soda daily—the other dog getting exactly the same food, minus the sulphite. At the end of five days he injected into the femoral veins of both animals one gramme of pus, taken from a fetid abscess occurring in a broken-down constitution. The operation, in both cases, was carefully performed, and the animals suffered but little. Immediately after the injection both dogs appeared stupefied; they lay down and refused all food, remaining quite prostrate for twenty-four hours. On the following day, however, they both seemed a little better, and took some food. A second injection of pus was now practised on both animals to the same amount, but the first dog had, the

meanwhile, been getting two grammes of sulphites daily, while the other was only getting plain food. The effect of the second injection was most interesting; both dogs were affected instantly alike; both were seized with stupor; in both the pulse was rapid, but feeble, while the respiration was greatly accelerated. Both dogs refused to eat; both lay down in a state of stupor; and, when made to rise and walk, they tottered and reeled across the room. The first dog, however, continued to receive, daily, a dose of two grammes of sulphite of soda, and in four days was so far recovered as to be able to eat his food with relish, while the wound in the femoral vein was rapidly healing. The other dog fared differently; he got no sulphites, either before or after the operation, and the result was that he daily became worse; the wound in the thigh became gangrenous, the limb swelled up, and ten days after the second injection the dog died with all the symptoms of typhus, the first dog being already about and well. The result of this experiment was highly satisfactory; but the professor did not rest satisfied with it, so he again proceeded as follows:—On the 9th of March, 1861, he injected into the femoral veins of three dogs three grammes of putrid blood to each. (This blood was defibrinated bullock's blood which had been kept for four months; it was quite putrid, and exhaled a highly fetid ammoniacal odour.) The three dogs were about the same size, and were fed exactly alike, with the exception of dog No 1, who, for two days previous to the operation, had taken sixteen grammes of sulphite of soda in one gramme doses. A few minutes after the injection the three dogs were affected very much alike. No. 1 vomited almost immediately, looked ill, lay down at once, and for several hours refused all food; the following day it was still heavy and stupid. Two grammes of sulphite of soda were administered to it, and repeated the following days; on the third after the operation the dog was already much improved, and by the fifth it was perfectly well. Of the other two dogs, one, after having vomited, remained standing, with its legs wide apart and its head hanging down; it shook and shivered all over, then fell on its side, panting violently; gradually it became worse and worse, and finally died in five hours. The other suffered much in the same way; it lived five days, during which it was too weak to stand; it did not eat; the wound in the thigh became gangrenous, and it expired comatose, with all the symptoms of typhus fever. It was examined after death, when the lungs were found of a deep red colour, dotted all over with ecchymotic patches, some of which had suppurated in the centre, the right cavity of the heart was filled with black grumous blood, while a pale yellow fibrinous clot filled not only the left ventricle, but extended also into the aorta. The whole gastro-intestinal tract was injected, and smeared in places by purulent matter.

This same experiment was now repeated in a modified form. Two dogs of nearly same weight, in good health, were submitted to an

injection of one gramme of putrid blood each ; but in one case the blood was diluted first with three grammes of a saturated solution of sulphite of soda. Both dogs were very ill at first, and both dogs recovered eventually ; but while the dog which had received the diluted injection was only sick for two days, the other was more than a fortnight before it struggled into convalescence.

This was a very valuable experiment. It showed that these sulphites can with safety be introduced directly into the circulation, without in any way endangering the vitality of the blood. I should have premised that Dr. Polli had previously tested the safety of injecting a solution of sulphite of soda into the circulation by trying it in healthy dogs, and had done so repeatedly without any bad results.

Encouraged by the evident success of his experiments Dr. Polli determined to test the efficacy of the sulphites by bringing them into direct antagonism with one of the most virulent of animal poisons, that of glanders. He took a strong, healthy dog, and, having made a cutaneous incision between its shoulders, where the animal could not reach with its mouth, he introduced through it into the subcutaneous cellular tissue, some discharge obtained from the nares of a glandered horse. In a few days the wound became gaping and ill-conditioned ; the dog looked ill, heavy, and stupid ; it refused its food ; and, by the fourteenth day, the animal had a number of unhealthy pustules over his body, which spread out into ill-looking, sanious ulcers. The dog became daily worse ; and finally died twenty-six days after the inoculation. An examination after death revealed a highly injected condition of the mucous membrane of the stomach, with many ecchymotic patches. The intestines were highly vascular, and of a dark livid colour ; while the lungs were thickly studded with apoplectic clots. Professor Polli now took two large dogs, as similar as possible both in size and health, and having administered to one of them eight grammes daily of sulphite of soda, he injected into the femoral veins of both dogs three grammes each of the muco-purulent discharge obtained from the nares of the same glandered horse which had served for the previous experiment. The first dog which had received the sulphites seemed at first to suffer the most from the injection. It at once fell to the ground as stunned, and its breathing was rapid and panting ; but in a few hours it began to recover, and the following day it was able to eat. The second dog bore the operation better, and did not appear to sustain so severe a shock ; but on the following day it began to mope ; towards evening it was very drowsy, and with difficulty it could be got to stand ; by the third day the animal's extremities had become œdematous and painful ; by the fourth, a purulent discharge was running from its nose and eyes—the wound in the thigh was now almost gangrenous ; on the sixth day the animal died, worn out by pain, fetid suppuration, and diarrhea. The first dog was by this time completely recovered.

I might relate many other instances of equal interest, as Professor Polli has repeated these experiments nearly a hundred times, *almost always with a successful, always invariably with a satisfactory result*. He seems to have clearly established that, contrary to C. Bernard's assertion, those ferments which, in the animal frame, are capable of originating zymotic diseases, *can be neutralized* by substances which do not in any way prove injurious to the animal economy. I cannot bear full testimony to the correctness of Professor Polli's experiments, not having as yet had as ample opportunities of testing their accuracy as I could wish; but I can bear testimony to the harmlessness of the sulphites of soda, potassa, and magnesia, when administered internally, even in large doses; and I think that in three cases in which I employed these remedies I observed a decided improvement after their administration. One was a case of phthisis, with excessive purulent expectoration. The patient took for several months one scruple of sulphite of soda three times a-day, with very manifest advantage. In this case, although the cure was hopeless, I gave the sulphite with a view to diminishing the purulent secretion, and I was not disappointed. Another case was that of a gentleman who consulted me about an unpleasant eruption by which he was tormented, and which looked extremely like rupia. He assured me, however, that he had not had syphilis for eighteen years previous; and I have no reason to doubt his assertion. I gave him half drachm doses of sulphite of soda three times a-day, in a bitter infusion, and in a short time he became perfectly well. I gave him no other medicine. The third case was one of constantly recurring boils, some of which were sufficiently large to require incisions. The patient was a young gentleman in easy circumstances, well nourished; and although a student in an English university, not in any way broken in health by over study. He had been suffering from these troublesome boils for upwards of six months. After trying divers remedies, I placed him under a course of sulphite of soda, giving him one drachm of the salt three times a day; and in less than a month not a boil could be seen on his body, though his face, neck, and shoulders still exhibited plentiful traces of his former tormentors.

It is not in private practice, however, that the real value of a remedy can be fairly tested. I have proved to my satisfaction that the sulphites are, at any rate, uninjurious to the animal economy. It now becomes the duty of those physicians and surgeons who enjoy the incomparable advantage of hospital practice to put these remedies to the test. It is to them that my friend, Dr. Polli, appeals. "To the test of clinical investigation and clinical result I leave the issue of my discovery," are his words to me.

If Professor Polli has not deceived himself—if these sulphites really have the power of neutralizing animal poisons, even after their absorption into the circulation—his discovery would be as great, if not greater, than

that of Jenner. Nothing can be more candid than his conduct has been throughout. He has made no secret of his discovery; and nothing can be more modest than his constant expression:—"I wait for the verdict of the clinical students of Europe."

In conclusion, I earnestly beg to call the attention of all practitioners, and especially of those who enjoy the privilege of hospital practice, to the subject of this paper. Let these remedies be tried in every case in which they offer a chance of success, both in the treatment of disease and as prophylactics also. Whenever they meet a case of scarlatina, let them treat not only the patient, but let every individual in the family take a certain quantity daily of one of these sulphites; and let the same plan be adopted in every case apparently depending on some zymotic poison, whether fever, pyemia, septicemia, or puerperal peritonitis.

TRANSACTIONS OF THE COUNTY AND CITY OF CORK
MEDICAL AND SURGICAL SOCIETY.^a

SESSION 1862-63.

DR. W. C. TOWNSEND, President.

DR. POPHAM on *Carbonate of Ammonia in the Urine*.

Dr. Popham exhibited a specimen of urine, passed by a patient in confluent small-pox, containing carbonate of ammonia in such abundance as to effervesce briskly upon the addition of the mineral acids. The patient was a woman of 45 years of age, almost idiotic. The urine presented nothing unusual until the seventh day from the appearance of the pustules, which had just commenced to sink in. On that day, perceiving the urine to be darker than ordinary, he tested it with nitric acid for albumen, and was surprised to find that the addition of a few drops was followed by a rapid effervescence. The specimen produced was brown, rather smoky-looking, turbid, with a strong ammoniacal odour; it was examined shortly after being voided. Dr. Popham observed that he tested the urine of the same patient daily, until convalescence was fully established, but without being able to detect a recurrence of the carbonate of ammonia, and was led to suppose it was critical, occurring just at the turn of the disease. Copious deposits of the phosphates also existed. In cases wherein carbonate of ammonia is present in the urine there is found an absence of urea. Some interesting observations upon this subject are found in *Graves' Clinical Lectures*. However, this author apparently held that the carbonate of ammonia was directly secreted by the kidney; whereas

^a These Reports are supplied by Dr. T. W. Belcher, Secretary to the Society.

Golding Bird and others consider that it arises from decomposition of urea, the mucous matter acting by catalysis as a ferment. In this case the alkaline salt neutralizes the acid which retains the phosphates in solution, and which are thus thrown down.

Case of Pelvic Abscess Discharging through the Urethra. By DR. CUMMINS, V.P.

Mrs. B., aged 25, of lymphatic temperament, with hereditary predisposition to phthisis, but healthy and well-made, was confined, on the 4th of October, 1860, of her third child. The labour was severe and protracted, but terminated naturally, and convalescence progressed favourably until the morning of the 9th, when fever, with transient delirium, accompanied by pain and tenderness of left iliac region, made their appearance.

I immediately ordered cooling and aperient medicine, and had hot fomentations assiduously applied to the painful part; and by those means the local uneasiness was relieved, the pulse, which had been over 100, fell to 84, and convalescence seemed to be quite established in a few days.

October 22nd, 19th day.—Vomiting, unattended by thirst or epigastric tenderness, and most severe in the recumbent posture, commenced this morning, and continued throughout the day; bowels rather confined; pulse 84.

23rd, 20th day.—The vomiting continues, and rigors are much complained of.

26th, 23rd day.—Vomiting and rigors continue, and the urine is loaded with pus; dysuria and smarting on micturition cause much suffering. I cannot detect any tumour, either by external or internal examination.

30th, 27th day.—Smarting and rigors have ceased; vomiting continues, and there is much pus in the urine.

November 3rd, 31st day.—Sickness has ceased, and in all respects the patient seems convalescent.

Nov. 23rd, 51st day.—There has been some sickness in the mornings; rigors have occurred at irregular intervals, and about a week ago there was a slight appearance of pus from urethra. Since then, however, these symptoms have gradually subsided, and the patient seems now in perfect health, except some suffering from a horribly fetid discharge from nostrils, which commenced about the eighth month of pregnancy, and continued subsequent to parturition for several months, yielding eventually, in a rapid and decided manner, to large doses of arsenic.

This year, 1863, I attended her in an easy labour, from which she convalesced without a bad symptom.

The most remarkable point in this case is the extreme mildness of the symptoms of a disease usually so formidable as pelvic cellulitis, and the almost complete absence of the tumour which is generally characteristic

of this affection; next, the rapid and complete recovery, without the protracted suffering it generally entails; and, lastly, the unusual vent by which the abscess discharged itself from the system.

Dr. M'Clintock, in his late work on diseases of women, gives, as the result of seventy cases which occurred in his experience, that "thirty-seven ended in suppuration with discharge of pus;" and of these "twenty-four burst or were opened externally, viz., twenty in the iliac region, two above the pubis, one in the inguinal region, and one beside the anus; six were discharged per vaginam, five by the anus, and two burst into the bladder." He gives the details of the two last, one of which recovered so rapidly that the author makes it the subject of special remark.

Another unusual circumstance connected with this case is its early occurrence. Pelvic cellulitis is not generally met until the third or fourth week of the puerperal state, and then it can generally be traced to some imprudence, such as over-exertion or premature cohabitation; but the case I have related occurred at a time when puerperal fever was raging in Cork, and seemed to have been due rather to the epidemic influence than to any local cause. Another similar, but much more severe case, which came under my observation about the same time and after a protracted illness discharged through the rectum, commenced on the third or fourth day after the termination of labour; so that it seems that as marked a distinction may be made between epidemic and sporadic puerperal cellulitis as there is between those two forms of metritis.

A Case of Gonorrheal Rheumatism, successfully treated with the Tincture of Larch. By JOHN POPHAM, A.M., M.B., Physician to the Cork North Infirmary.

Sub-constable M'Kelvy was admitted into the North Infirmary August 20th, 1862, completely disabled, from rheumatism, affecting nearly every joint of his body. He stated that about six weeks before admission he contracted gonorrhea, for which he took copaiba; but while using it he was exposed to a severe wetting, and remained in his wet clothes for several hours, the consequence of which was that he got severe rigors, followed by pains of the joints. He remained without medical aid during four weeks, and at the period of his admission he could hardly stir hand or foot, and was, besides, greatly emaciated.

The chief joints engaged were the shoulders and elbows of the upper extremities, and the hips, knees and ankles of the lower. From the wasting of the muscular and adipose tissues, the joints seemed so much enlarged as to present an appearance of considerable deformity. The ankle joints were much swollen and painful, and the soles of the feet were covered with a thick scaly incrustation, extending round to the roots of the large toe nails. The calves of the legs were thin, flabby, and pendulous. He had a urethral discharge of a gleet character. From the

severity of the nocturnal pains and the loss of sleep his face had a haggard and greasy or waxy look. The tongue and throat were covered with a curdy-looking coat, but without any ulceration. His pulse varied from seventy to eighty; he had no cough or pain of the chest, but his voice was weak, and at times scarcely audible.

In consequence of the nocturnal pains he was ordered the iodide of potassium in decoction of bark, and an opiate at bed-time, accompanied with the cautious use of vapour baths, both general and local, with a diet of meat and porter. The further progress of the case was as follows:—

September 14th.—Symptoms as before. As he was greatly emaciated he was directed to try a dessert spoonful of cod-liver oil three times a day.

September 19th.—The bark was changed for sarsaparilla, as it caused nausea.

September 27th.—A troublesome diarrhea set in, which he attributed to the porter, which was indifferent. His medicines were stopped, and he was ordered chalk mixture with catechu and opium, and a full dose of Dover's powder at bed-time.

October 8th.—The diarrhea has ceased. Ordered a diet of milk and eggs, lime-water to be used with the milk; opiates at bed-time, and a grain of sulphate of quinine three times a day.

October 17.—The night pains were so agonizing that the iodide of potassium was again tried; and a chloroform liniment gave some relief.

October 24.—The cod liver oil was used for a few days, but was thrown off the stomach. On reviewing the case the progress seemed discouraging. The pains continued unabated; the scaly eruption on the feet was spreading; his general health was not improved; and the helpless and crippled state of the limbs persisted. It was plain that the course of treatment hitherto adopted was inefficacious; but what other could be substituted with advantage? On inquiry he admitted that, ten years before, he had a primary venereal affection, so that there appeared a possibility that gentle mercurialization might improve the scaly psoriasis. With this hope, half a drachm of mercurial ointment was rubbed in every second night, and washed off in the morning, so as to hold the remedy in check. Other medicines were discontinued, except a night dose of Dover's powder.

October 30th.—He has had a return of diarrhea during the last few days, for which he was ordered decoction of logwood, with tinctures of cinnamon and opium.

Nov. 10th.—The diarrhea has ceased; the mouth has become slightly affected. Ordered to omit the inunction. As the Dover's powder produced perspirations which weakened him, he was ordered a night draught of tincture of hyoscyamus. The quinine was resumed, and he was directed to take a couple of glasses of sound wine daily, with strong beef tea *ad libitum*.

Nov. 21st.—Not much improvement as yet from the mercurial course; his state is very critical; his tongue is red, with a curdy layer of an aphthous character; the throat is of an erysipelatous hue; tenderness on pressing epigastrium; nausea, and occasional vomiting; aphonia almost complete; he speaks in so low a whisper that a person must stoop down to hear him; pulse not increased in frequency; stripping prevented by the use of several air pillows; he lies on the back altogether, and the bones are projecting. Upon a close examination of the chest no evidence of tubercular deposit could be detected. At this stage of the case he was ordered the larch tincture—half a drachm three times a day, and fifteen minims of Battley's sedative every night.

December 12th.—He has taken the tincture of larch regularly since the preceding report, and has been getting gradually stronger. The larch does not seem to increase the quantity of urine, or to present any obvious effect. Besides the larch, he has continued the quinine as before, finding that it checked perspirations, and also the night draught of Battley. His diet is three pints of new milk per diem, eggs, and two or three glasses of port wine. As he still feels the pains of the joints, he was ordered a liniment of half an ounce of tincture of aconite in an ounce and a half of camphor liniment, which afforded him great relief.

1863, January 17th.—Since the last report he has improved considerably; he is able to be up for a few hours daily; he is gaining flesh; the painful and desponding expression of his countenance has given place to hope; the squamous eruption upon the feet, which has been on the decline since the beginning of December, has now disappeared; he has recovered his voice; all the symptoms of gastro-enteritic disturbance have left him, so that he has been able to resume the use of meat. It was resolved to test the effect of the medicines by omitting the quinine.

January 24.—He is of opinion that, since the omission of the quinine, the perspirations are more copious at night; in every other way he continues to improve.

February 2.—Since the last report he has resumed the quinine, and with the effect of stopping the perspirations; the night pains have ceased; he gets about by the aid of two sticks, but when long up the ankles swell; he is gaining flesh and strength rapidly.

February 26.—He left hospital this day, able to walk without support, and in every way recovered.

Remarks.—The preceding case afforded an instance of intractable arthritic affection, arising from protracted exposure to cold and wet, while the patient was suffering from chronic inflammation of the urethra. The arthritis is evidently not metastatic, as the urethral discharge did not abate; but it set in with much greater severity than occurs in ordinary arthritic attacks. For example:—The patient was much more worn down upon admission than he might reasonably be expected to have become in

so short a time; his muscles had lost their tension and rapidity of contraction, and, in all probability, their vividness of colour; the joints, especially the ankles, had become enlarged by deposits consisting of effusion into the areolar tissue, and thickening of the periosteum and perichondrium. A very peculiar scaly eruption formed upon the soles of the feet, but rarely met with in such cases, and confined to those parts, so that it may be truly termed "plantar psoriasis." It is worthy of notice that the heart was not engaged, and seldom is, in this form. The usual nocturnal exacerbations were also unusually severe. Another peculiarity of this affection is a sallow, tallowy hue of the countenance, with a worn and despairing expression; and there is reason to suppose that the tendency to gastro-enteritic complication is not casual.

With respect to the treatment:—The iodide of potassium, usually so effective a remedy in syphilitic pains, failed to afford relief; the various preparations of bark were equally powerless, though quinine succeeded in checking the perspirations. All forms of baths increased the debility; sarsaparilla and guaiacum were inoperative, and cod-liver oil disagreed. The claims of the mercurial treatment cannot be disposed of so evidently; it indisputably caused much present disturbance; but whether it co-operated in overcoming slowly the deep resistance of the disease is open to question.

There is nothing more certain than that the amelioration in the case commenced with the administration of the larch. He was reduced to extreme emaciation, and only prevented from stripping by the ingenious application of air cushions disposed all round his person. All the gastric symptoms, one by one, retired; the curdy aphthous secretions, the raw redness of the pharynx, and the complete aphonia gradually yielded. The urethral discharge ceased, under injections, at an early period of the case, and did not seem to increase or lessen the arthritis while it lasted. As to the *modus agendi* of the larch—it did not act by diuresis, as some supposed; nor did it cause diarrhea, as I have noticed in some cases where it has been given. It probably exerts some specific effect upon the urinary system, the urine becoming natural, apparently in its sensible qualities, under its use. Of the unmanageable nature of this ailment every practitioner of experience will recollect examples.

Notes of a Case of Funis Presentation. By the PRESIDENT.

On the morning of the 20th of March, Mrs. —, a patient of mine, was suddenly seized with labour of her eighth child. After a few sharp pains the membranes burst; a very large quantity of liquor amnii was evacuated, and the nurse, finding the funis presenting, immediately sent for me. When I arrived I found Professor O'Connor in attendance, who was sent for in the emergency.

On examination, we found the funis in the vagina, the external parts

moist and dilatable. A careful examination enabled me to detect the head, very high up; it had not entered the brim of the pelvis. Pains had entirely disappeared. After a careful consideration, it was agreed that I should remain in attendance, and watch the case closely.

The patient being well-made—the “liquor amnii” being fully evacuated—the cord pulsating strongly, and her labours previously having terminated quickly, we did not think it advisable to interfere.

No change took place until four o'clock, when she complained that something was coming away. On examination, I found the funis had descended, and fully one yard was now lying in the bed—still pulsating strongly. On examination, I found the head had well entered the pelvis, evidently forced down by a painless contraction of the uterus and by abdominal pressure. I carefully arranged the funis, so as to prevent pressure, rolled it in a napkin, and enjoined the utmost quiet—not permitting her to move off the left side.

At half-past five o'clock Professor O'Connor again saw her with me. Seven and a-half hours had now elapsed since the membranes burst, during which time she had no pain—the head had well entered the pelvis—the funis was pulsating strongly—the “os” was fully dilated, the soft parts were quite flaccid. We agreed to give her one drachm of “liquor secalis cornuti” every fifteen minutes, and wait the result.

After the second dose labour-pains set in—the head rapidly advanced—the funis became very tense—pulsation was with difficulty felt, and in a very few minutes the head escaped the outlet. The child was apparently still-born.

A steady perseverance with the usual remedies was attended with success, and respiration at length fully established.—*March 25th, 1863.*

Case of Typhus Fever, with numerous Complications. By DR. BELCHER.

Dr. Belcher exhibited the intestines of a man named Hugh Curran, a sailor, aged twenty-seven, who was admitted to the Cork Fever Hospital, under his care, on December 31, 1862, and remarked:—

The patient stated that he was engaged to go from London to Queensland, as an able seaman, in the emigrant vessel *Golden City*, but that, on the passage from London to Cork, he was taken ill with headache and constant vomiting—not sea-sickness—in consequence of which he was put ashore at Queenstown, and sent to the Cork South Infirmary, whence, after fifteen days' treatment, he was admitted to the Fever Hospital. On January 1, 1863, he had subsultus and tympanitic abdomen. On the 3rd, the maculæ of typhus appeared; the tympanitis soon disappeared, and he seemed to progress favourably, under treatment by Dover's powder, turpentine fomentations, and a moderate allowance of wine and beef-tea. On the 8th January, he had slight bronchitis; on the 9th, his pulse (96) began to intermit; on the 10th, the tongue began to clean off,

while the subsultus, which had previously disappeared, returned. On the 12th, he got a sudden change for the worse—the pulse fell—the face assumed the “Hippocratic” appearance—he could not bear his abdomen to be touched, and passed very little water; he also discharged some green fluid from his stomach. On the introduction of the catheter only a half-pint of urine passed off. He had plenty of stupor, anodynes, and stimulants; but died early on the 13th January.

Dr. Joseph O’Kelly very kindly made the *post-mortem* examination. On opening the abdomen there was a discharge of foetid gas, and a large quantity of purulent fluid escaped. All the intestines presented a congested appearance, particularly the small; but there was not any sign of internal ulceration. The spleen, nearly a pound in weight, was of a dark slate colour, and quite warm. The right kidney was congested; the left soft and flabby. The liver was congested; the left lobe hepatized, but no adhesions to the diaphragm. The stomach was thickened at its pyloric end, which was also the seat of stricture. The bladder was of normal size and appearance. What, then, was the proximate cause of death?—*January 14, 1863.*

Probable Agency of Toxemia in Inducing Mania and Delirium Tremens.
By DR. LUTHER, Clashmore.

In three cases of insanity that occurred in my practice, within the past two years, I was much struck by the fact that, before confirmed mania set in, and whilst the symptoms were only those of hysteria or hypochondriasis, very troublesome tympanitic distension of the stomach and aortic pulsations, likewise profuse and fetid sweats, existed, which reactive efforts to eliminate a poison from the system (as I regard them) were partially successful in controlling the disease; but when at length mania became fully established, the eructations and fetid perspirations ceased. All those patients dreaded insanity from the moment that they became subject to “foulsay,” which is the Irish appellation for this tympanitic distension of the stomach. It is also applied to brain fever, epilepsy, and, in fact, all nervous maladies.

Two of my patients followed identically the same course as regarded their symptoms. I considered them to be cases of hysteria, inasmuch as, though they acknowledged to having spectral illusions at night, they spoke quite rationally, and were very urgent that I should cure them of the aortic palpitations and globus hystericus, which constantly annoyed them. Finally, the elder patient, a woman of fifty, having completely lost her reason, was sent to an asylum. The second patient (her daughter), who had been in attendance on her, soon after began to complain of palpitations in her stomach, followed by eructations, sweats, tinnitus aurium, &c. Having seen her mother suffer from those symptoms, she begged of me to shave, leech, and blister her head, as she

said it (I suppose she meant congestion) would surely rise to her head. She was quite correct in her belief, for in the course of some months she became completely insane, when she became much more healthy. The third woman (whom grief and remorse rendered insane) expressed great alarm at the supervention of "foulsay" in her stomach. I thought her hypochondriacal, but she eventually became mad. In some other first attacks of insanity which came under my notice, heavy fetid sweats were very noticeable; and in one the patient said constantly, "Faugh! this vile smell," and requested me to give him an emetic that he might throw the load off his stomach.

It is true that madness or epilepsy was hereditary in the family of all those persons. Most blood diseases are also hereditary. Belladonna in large doses, produces hallucinations and temporary insanity; opium acts as an antidote to belladonna, and is often beneficial in mania, and in delirium tremens, in which disease the probability of toxemia is very great, as is evinced by the fact that the supervention of cholera morbus suspends the delirium, which at once returns should the "*nimum diligentia medici*" arrest the vomiting and purging—evidently efforts at elimination. Sydenham noticed, in describing the agues of 1661, "that a certain peculiar madness followed long agues, especially quartans; so that the malarious poison may apparently induce it." Hippocrates, as quoted by Esquirol, says "if hemorrhoids or varices supervene on mania the mania disappears." Now, this can only be intelligibly explained on the supposition of derivation and concentration of blood-poison in the swelled vein. The Turkish bath has, I believe, been successfully employed in the treatment of insanity, and it would probably be still more efficacious in hysteria, the symptoms of which are very much due to transient local congestions, originating in some morbid element in the blood.

Possibly the repeated use of emetics, leeches, and blisters to the liver, and alkaline carbonates, might be also beneficial.—*January 28, 1863.*

DR. LUTHER ON *The Causative Agency of the Skin and Liver in the Induction of Phthisis and other Scrofulous Maladies.*

The blood is alkaline; the sudoriparous glands remove acids from it as fast as they are generated; the process being mainly one of simple transudation. Liebig states that the alkaninity of the blood aids, in a remarkable manner, the oxydation and combustion of grape sugar; it also aids the solution of oxides of iron. To it is due the extreme facility with which the blood moves through the minutest vessels, the delicate coats of which are impermeable, or very nearly so, to alkaline fluids. The free alkali acts as a resistance to many causes which, in its absence, would coagulate the albumen.—(See *Carpenter's Physiology*, p. 83.)

An acid state of the blood, therefore, prevents the oxydation of liver sugar by the lungs, hinders the absorption of iron into the blood, favours

congestion and the deposition of lymph and transudation from the blood-vessels. Now, the blood has been proved to be acid in diabetes, and diabetes usually terminates in phthisis. It is possible that the acidity of the blood, and the glycohemias which are constantly operating in diabetes, may occasionally occur in incipient phthisis. It has, indeed, been asserted by competent observers, that glycosuria always precedes phthisis; and phthisis prevails in countries subject to variation of temperature, where, from frequently obstructed perspirations, the blood must be often acid. Glycohemias frequently causes anthrax; also spontaneous mortification of the toes. Virchow, of Berlin, denies that tubercle is a product "*sui generis*." He implies that it is a normal tissue undergoing retrograde metamorphosis. If, as has been asserted, glycohemias always precedes phthisis, why do we not have the phenomena of diabetes, viz., excessive thirst, insatiable appetite, and diuresis? I answer, because the system is not saturated with the poison as it is in diabetes. How many glasses of alcohol will not a tippler drink before the false appetite and thirst for cold water, so well known to such persons, supervenes? Probably, if attention were directed to the subject, some diuresis might be noticed; but the lung may be equal to the task of elimination, and yet be materially injured by the presence, in its capillaries, of saccharated blood. A degree of uremia, not sufficient to attract notice, by the induction of dropsy or any of the more marked symptoms of kidney disease, may cause serious structural change in the arteries, heart disease, or aneurism.

Again, I am almost certain that congestion of the portal system and liver precedes the development of phthisis; and it is well known that fatty degeneration of the liver is discoverable after death in a vast majority of phthisical cases, and in few other diseases, unless Bright's disease.

This fatty degeneration of the liver is not found in cases of hydrothorax or hepatized lung, so that it cannot be due to its being overtasked in excretion of hydro-carbon.

The congestion of the liver, which I presume to exist, impedes the secretion of bile (the bowels, in the early stages of consumption, are usually constipated, unless where there is diarrhea, both results of different degrees of congestion); it hinders, or perverts, the manufacture of liver fat, possibly making a fat unfitted for being deposited in the cellular adipose tissue, or aiding in cytogenesis calorification, &c. Emaciation is a very early symptom in phthisis and other tubercular diseases, and yet, strange to say, the blood is found to be loaded with fat in tuberculosis. In healthy blood the fat exists only in a saponified state; but when the blood is acid it cannot be saponified. It is right, however, to state that this accumulation of fat in the blood was also noticed in Bright's disease, nephritis, diabetes, chronic diseases of the liver, dropsy,

jaundice, mammary abscess, and pneumonia. In the first three we may presume the blood to be acid: in the liver diseases congestion, of course, existed; in that of mammary abscess the fat, which should have been eliminated with the milk, was thrown back on the blood.

Now, as regards the “*lædentia*” and “*juvantia*,” dandelion is very much estimated in the country in the treatment of consumption; and Astley Cooper treated all scrofulous diseases with different mercurials and alkalis—hydrargyrum cum cretâ, oxymuriate of mercury, carbonate of soda, and liquor potassæ. Again, Coulson, in his work on the hip joint, says:—“The organ most frequently found deranged is the liver; and, at the infirmary, leeches and other local means are applied to this organ oftener than to the affected joint.” Water on the brain is believed to be a scrofulous affection; in it the action of the liver is undoubtedly perverted, and the appetite is frequently abnormal, like that of a diabetic patient. Now, calomel and diuretics are more beneficial in this malady than any other remedies, restoring the tone of the liver, and, perhaps, assisting the kidneys to eliminate sugar. I doubt extremely if the mercury acts in this disease as an antiphlogistic; at all events, salivation is seldom produced, and not necessary. But it may be said that salivation is very injurious in scrofula. I grant that; but salivation produces excessive congestion of the portal system (the very object we desire to avoid), as is evinced by the colics and dysentery which form a distressing symptom of it.

The analogy existing between typhoid fever and consumption, and the prejudice which exists on the continent that the latter disease is contagious, is worthy of notice, but is, however, foreign to this subject.

I would strongly urge the use of the Turkish bath in phthisis and other tubercular diseases, with the double object of exciting the functions of the skin and relieving the congestion of the abdominal viscera.—*February 11th, 1863.*

Case of Spontaneous Varicose Aneurism, with Pathological Specimen. By EUGENE FINN, A.B., M.B., T.C.D., Lic. K. & Q. College of Physicians, Ireland; Senior Physician to the Cork North Charitable Infirmary.

The pathological specimen which I mean to bring under your notice this evening relates to a case of spontaneous varicose aneurism which occurred in the practice of the North Infirmary, and in which a communication, *recognised during life*, was found to have existed between the *ascending aorta* and *descending cava*. This form of disease rarely presents itself in practice; and as this has been the first instance of the kind which occurred in this city, or, at least, which is supposed to have occurred, this circumstance invested it with the interest that ever attaches to a pathological curiosity, as this lesion has been, not inaptly, designated. Auscultation, to which medical science is beholden for

revealing the physical signs of arterial disease, has failed, in some measure, to offer a solution of the difficulties which surround the diagnosis of this twofold lesion of the vascular system; but this failure is, perhaps, less to be referred to the difficulties that exist than to the comparative infrequency of the disease in question. Did this lesion present itself in the same degree of frequency as uncomplicated arterial disease, it would have been, probably, quite as amenable to auscultation as the latter. In Dr. Mayne's communication on "Varicose Aneurism," published Vol. XVI. (New Series) of *Dublin Medical Journal*, will be found a *resumé* of almost all that was known on the subject down to the period at which he wrote. In that paper he referred to those of his contemporaries of the Dublin school, and to others, who have laboured in this field of inquiry. The former include the names of Mr. Adams, Dr. Law, Dr. Robert Smith, and Dr. M'Dowel, who have severally enriched medical literature by their contributions on this subject.

The latest case of varicose aneurism which I find recorded is a very interesting one, which appeared in *The Medico-Chirurgical Transactions* for 1861.^a In this case the nature of the lesion was recognised during life. The case which I am about to describe presents many points of resemblance to the cases of Drs. Mayne and Law,^b and to some of the cases recorded by Dr. Thurnam in his valuable Memoir, published in *The Medico-Chirurgical Transactions*, 1840; and this resemblance applies not merely to the physical and general signs, but also to the co-existent pathological lesions.

Samuel Bates, aged 53, a teacher of music, was admitted into the North Infirmary on the 28th September, 1862, suffering from a paroxysm of dyspnea, which appeared to be induced by the fatigue incident to his removal to hospital. For some time after his arrival in the ward his life appeared to be in the most imminent danger, and some hours elapsed before his respiration ceased to be paroxysmal. His general health had been very good. In early life he suffered from an attack of acute rheumatism; and from that period to July last, enjoyed uninterrupted health. In July he was under the care of Dr. Armstrong, of this city, for an attack of cedema of the face, neck, and right arm; and the symptoms just noticed abated in a few days to such an extent as to admit of his resuming, for a very short time, his professional engagements. His habits were reported to have been intemperate; and he had suffered for years from the many privations incident to poverty. His stature was tall; but the figure was much emaciated, and rather bent. The face was swollen and congested; the nose exemplifying the latter condition in its highest degree of intensity. The eyelids were also much congested;

^a Case by Dr. Wade of Birmingham.

^b *Dublin Journal*, vol. xxi., p. 443.

and their margins presented the appearance of red zones encircling the eyes. There existed some retro-conjunctival effusion; and the eyes, in consequence, were unduly prominent—"starting, as it were, from their spheres" No change was observed in the condition of the pupils. The expression of the eyes was of that mixed character in which surprise and alarm are at once manifested; and the general physiognomy was eminently suggestive of the "abnormal activity" of the respiratory system. The œdema also involved the neck, right arm, and forearm, and the two superior thirds of right chest, anteriorly. The neck was almost on a level with the lower jaw—the œdema having assumed the appearance of enlarged glands near the symphysis of the chin, and immediately beneath the right ear. The outline of the right clavicle was completely masked by the turgid condition of the integuments. The swollen parts, as in Dr. Mayne's case, offered more resistance to the pressure of the stethoscope and of the fingers, than ordinary anasarca. There existed considerable venous turgescence of neck and right infra-clavicular region. In the latter it was most intense near the border of the axilla. Commencing at a point about an inch to the left of right nipple, were observed small clusters of veins, extending thence, in an oblique direction, to the left hypochondrium; in which latter locality several veins were elevated above the surface.

September 29th.—Slept in the horizontal position; respiration considerably relieved; tongue coated; appetite moderate; pulse 94; rather weaker in right than in left wrist.

Physical Examination.—On inspecting the chest the right side appeared to measure more than the left; but on applying the measure, there was found to be no difference. The antero-posterior diameter of right side was increased; whilst the lateral was diminished. There existed, also, at right side an absence of resonance and respiration, anteriorly and posteriorly, except towards the base. In these respects the condition of left side was normal. A *loud, booming, continuous, single sound* was heard over the entire infra-clavicular region, at right side, presenting its maximum intensity at a point about two and a half inches below the centre of clavicle. Between this point and the cardiac region, and along the arch of the aorta, the loud, double sound of aneurism was audible—a very loud murmur replaced the first sound of the heart.

From this period to the 30th October the case proceeded more favourably than could have been anticipated. He occasionally complained of some difficulty of breathing during the night; and also of a sense of constriction at the lower part of neck. His appetite improved, and he suffered very little from cough. In general he spent the greater part of the day in walking about the wards of the hospital. At the date just referred to the following observations were recorded:—"Face cyanotic to a greater extent than previously; and increased prominence of eye-balls."

On this occasion he complained a good deal of the constriction at lower part of neck, which, however did not interfere with deglutition. During the month of November he suffered, to a greater extent than previously, from attacks of dyspnea at night; and at this time, too, his rest was frequently disturbed at night by urticaria, which generally subsided during the day.

Throughout the month of December the livor of the countenance, &c., &c., became perceptibly augmented; and he suffered more frequently from cough and difficulty of breathing, which sometimes amounted to orthopnea. At the close of this month he left the hospital for some days; and returned with all the symptoms greatly aggravated. In the early period of the month of January unequivocal symptoms of intrathoracic effusion manifested themselves. His condition became daily worse; and he was obliged to occupy the semi-erect position—any change in this respect inducing the most aggravated dyspnea. He died on the 13th January, 1863.

Autopsy took place about seven hours after death. There were present Professors O'Connor and O'Leary; Drs. Golding, Hobart, jun., and O'Sullivan (House Surgeon), and several medical students. Body much emaciated; *extreme pallor* of the countenance, which presented a marked contrast to the condition which existed during the latter period of his life; congestion of neck and right arm, similar to that already described. The forearm was more swollen than previously, especially towards the back of the hand, which had become quite transparent from the infiltration. When the integuments of the chest were divided a very large quantity of blood escaped from the superficial veins at right side. The right lung was united anteriorly by the strongest adhesions to the chest; on separating which, several pints of serum escaped. The lung was much diminished in volume, whilst its consistence was increased—a pathological condition which was anticipated, and which satisfactorily accounted for the alteration in the form of the chest, above noticed.

The left lung was slightly adherent to the thoracic walls; but in other respects healthy, with the exception of some hypostatic congestion. The pericardium contained a small quantity of serum. The heart was greatly hypertrophied, and weighed probably seventeen ounces. The mitral valves were much thickened and congested, and presented a moderate degree of dilatation. The tricuspid valves were similarly affected; both ventricles were hypertrophied—the right being proportionately hypertrophied to a greater extent than the left ventricle. The left auricle was free from disease; but the right auricle appeared to participate in the general hypertrophy. The aorta was moderately dilated at the commencement of its course; but at about two and a half inches from its origin it expanded into an aneurism of vast proportions, limited by the origin of the innominate. The sac contained a large quantity of red

coagulum. On removing the coagulum the sac was observed to extend upwards and outwards to the clavicle. The interior of the sac was rough and congested; and the portion of it contiguous to the innominate was reflected on it in such a manner that the coats of the two vessels were mutually adherent, and formed a septum common to both. The margin of this septum projected into the interior of the aorta, and appeared at once to favour the regurgitation of the contents of the sac towards the heart, and to repel the blood-wave issuing from the heart. The aorta was dilated to a moderate extent along the arch, and contained coagulum similar to that already described. At about the centre of the sac, and towards the right side, a small piece of coagulum was observed to protrude from an opening which, at first, had almost escaped notice; but which, on removing the plug, was found to be the medium of communication between the aneurism and superior cava. The orifice was of about the size of a fourpenny piece, circular in its outline; and its margins were smooth and polished. The vein and artery at this point, and at a considerable distance on either side, were united by adhesive inflammation. The vein did not, in other respects, present any deviation from the normal state. The liver was also the seat of organic disease—its colour resembling that of currant jelly.

In connexion with the autopsy a question suggests itself as to the probable duration of life subsequent to the establishment of the communication between the artery and vein? The aneurism had been, obviously, in existence for years; and its *gradual* development involved, without any appreciable disturbance of health, structural change in the contiguous lung to such an extent as almost wholly to disqualify it for respiratory purposes. Dr. Armstrong states that he suspected aneurism at the date of his first attendance, the 5th July; the other symptoms being “severe erysipelas of face and neck, which, towards the close, was complicated with extensive and obstinate anasarca.” Dr. Armstrong does not state that these symptoms supervened suddenly (as stated by the patient), having been ushered in, and accompanied by great dyspnea. The history of the case, it appears to me, warrants the presumption that the *communication* between the vessels existed since the 5th of July at least; the symptoms which this patient presented at a later period being, in many respects, identical with those described by Dr. Armstrong. This view is, also, borne out by the autopsy which describes the opening as circular, whilst its margins were smooth and polished—these conditions being more or less incompatible with a recent breach of continuity. In Thurnam’s experience of this disease the duration of life varied from four minutes to ten months. In this case the individual would appear to have survived the accident for six months and eight days. The existence of cardiac hypertrophy in the absence of valvular disease illustrates the remedial or physiological activity of the heart in connexion with arterial disease.

In conclusion, I beg leave to recapitulate the signs upon which I relied in arriving at the diagnosis, placing them in the order of sequence in which they first claimed my attention :—

1. The physiognomy was very characteristic, and its semeiotic value was much enhanced by the strong “family likeness” which this case presented to the cases of Drs. Mayne and Law, and to several of those recorded by Thurnam.

2. The sudden invasion of lividity and œdema of face, irrespectively of any previous history of bronchitis or asthma, excluded the respiratory organs from any direct agency in the production of this result.

3. The limitation, with the exception noticed, of turgescence to the tributaries of the superior cava, materially contributed to elucidate the nature of the case, by narrowing the circle which included the abnormality in question.

4. The œdema presented the peculiarity noticed by Mayne and others, in retaining some degree of elasticity.

5. The difference in strength between the radial arteries diminished in proportion as the œdema of right arm declined ; and was less remarkable towards the close of life, though the œdema had returned.

6. The coexistence of a single murmur with the normal double sound of aneurism at either side, in proximity, created some difficulty in localizing the aneurism, and involved a question as to the presence of a second aneurism. The difficulty in this respect was, in some measure, removed, by canvassing, *par la voie d'exclusion*, the differential signs of the forms of aneurism which may exist in the locality ; and the coincidence of the lividity of countenance, &c., with the single murmur in question, suggested that the solution of the difficulty was to be found in a cause common to both—viz., the communication between the aneurism and vein.

The heart was not separated from the aorta for the purpose of weighing, as the preparation was presented to Professor Corbett of Queen's College, to be preserved in the Pathological Museum.

On Placental Polypi and Placental Remains in the Cavity of the Uterus.
By Dr. STADFELDT, of Copenhagen. Translated from the *Hospitals-Tidende* for the 25th December, 1861, by WILLIAM DANIEL MOORE, M.D., T.C.D., M.R.I.A., Honorary Member of the Royal Medical Society of Copenhagen, &c., &c.

THE division made by Kiwisch of uterine polypi into mucous, fibrous, and fibrinous, has been considered by C. Braun to be insufficient in a

practical point of view. The latter writer has, in a very recent essay,^a endeavoured to remedy the insufficiency alluded to by describing a fourth species—placental polypi. There is but little difference of opinion among pathologists respecting the histology and pathogeny of mucous and fibrous polypi; as to the fibrinous, on the contrary, there is less of unity. Thus, while Kiwisch believes these to be metamorphosed and adherent coagula of retained menstrual blood in women who have not borne children, Scanzoni (*Lehrbuch der Krankheiten der weiblichen Sexualorganen*, 1857, p. 228) has thrown doubt upon this pathogenesis, at least as a general rule, and has put forward the view that they are the remains and consequences of an abortion, where the ovum has at an early period come away unobserved. Kiwisch had himself called attention to the fact that these fibrinous polypi might be confounded with an abortion, if the portions of the ovum, infiltrated with blood, pressed like a wedge into the os uteri; but he believed that they might be distinguished by the circumstance that the body of the uterus is the expanded part in abortion, while the fibrinous polypi affect by preference a dilatation of the cervical canal; the quality of the polypus is, moreover, capable of exhibiting the nature of the affection, inasmuch as it presents the character of a metamorphosed coagulum without the remains of an ovum. Scanzoni's opposition was based principally upon clinical observation, and was, on the whole, successful; the anatomico-pathological proof in support of his theory was first adduced, quite recently, by Rokitsansky. In the *Zeitschrift d. k. k. Ges. d. Aerzte in Wien*, 1860, the latter writer communicated two cases of abortion with dissection, where was discovered the foundation of a fibrinous formation of polypus, the peculiarity of which consists in this, that the cervical portion of the uterus was dilated by the depressed ovum, and so was prepared for the formation of Kiwisch's fibrinous polypus. When in such a case the embryo is extruded after the rupture of the membranes, the remains of the ovum left behind form, together with the extravasated blood, the foundation of a fibrinous polypus; and the blood will so much the more easily collect and coagulate in the passively dilated cervix, as the already contracted upper part of the uterus is not in a position to act on the collected sanguineous mass.

Braun also entertains the view that the fibrinous polypi are remains and products of pregnancy; he thinks, moreover, that they are not only consequences of abortions (abortive ova, mola carnea, retention of the placenta after a non-viable fetus), but that also the remains of the placenta of a fetus born at the full time may give rise to the formation of polypoid bodies in the uterus. He calls these *placental polypi*, and believes that future and more accurate histological investigation of this subject will

^a See Med. Jahrbüch. Zeitschrift. d. k. k. Gesellschaft der Aerzte in Wien. 1861. II. H., p. 199.

refer the majority of so-called fibrinous to the class of placental polypi. He rests his views on five cases, in which in a shorter or longer time after delivery there was violent hemorrhage from the uterus. On examination, such polypi were found; they were extracted four times with the finger; once the polypus separated spontaneously, and on investigation they distinctly exhibited the composition of the placental tissue. He finally describes, from the Vienna Anatomico-Pathological Museum, two preparations, in which are found polypoid tumours in a puerperal uterus, and these tumours consist of distinctly recognizable placental remains. As instructively bearing upon this point I shall quote the following from the records of the dissecting-room in Fr  derik's Hospital.

Anemia Post Partum ; Degeneratio Adiposa Cordis ; Placental Polypus.—J. L., aged 30, married was admitted, on the 22nd December, 1860, into the A medical division of the hospital. From the very imperfect statements of the patient it appeared that of late years she had suffered much both in body and mind; four weeks before her admission she had given birth to a living, fully-developed child. Her labour, though natural, was very difficult. The after-birth had to be removed by the midwife after the lapse of two or three hours, and a quantity of blood is said to have followed. Her convalescence at first proceeded normally; but it was stated that, 13 days after delivery, she again had some hemorrhage from the vagina, though this was but slight and of short duration. It was not her first confinement. With the exception of increasing languor, nothing seems to have gone wrong for another week. When she was admitted she was in a very collapsed condition, and could not even give any reliable information about her state. Her skin was of a yellowish grey colour, cachectic; her pulse was very small; the temperature of the body was low; there was great emaciation, torpor of the cerebral functions, want of sleep, and occasional delirium. Notwithstanding the administration of stimulants, she died on the 23rd of December. On *dissection* the heart was found considerably dilated, in a state of extreme fatty degeneration throughout the whole muscular substance, while externally the fatty layer was more than usually thick, especially in the lowest inch of the right margin of the organ, where the muscular structure was so highly compressed that the fatty layer pushed up almost to the endocardium. The body presented nothing else remarkable, except considerable anemia in all the organs. The *uterus* was three inches in breadth between the orifices of the Fallopian tubes; it was three and a-half inches in length. The os uteri formed a transverse fissure, into which the point of the index finger could be introduced. The substance of the uterus was firm, normal, and white. Its cavity was enlarged, filled with an ovum-like body of the size of a large walnut, which, from its porous, fibrous consistence and reddish grey colour, was evidently composed of placental tissue. When the cavity of the uterus was opened, the body in question

was found to be divided into three lobes pressed against one another; they were mutually coherent, and were attached to the anterior surface of the uterus, a little to the right of the middle line, by a stem formed of fibrous cords of about the circumference of a three-skilling piece. The body was not otherwise attached. No puriform masses were anywhere found; and, with the exception of a coating of thick greyish mucus, the inner surface of the uterus presented no abnormality. In the right ovary there was the trace of an old corpus luteum.

It is notoriously no new discovery that parts of the placenta may remain in the uterus after the discharge or removal of the after-birth. This has been already long known; and both older and more modern writers have recorded the results of dissection in such cases. Thus, Simpson found adherent placental remains in puerperal patients who died in from 10 to 30 days after delivery; and, from a clinical point of view, this subject has been treated of by Hüter in a short essay—"Die Mutterkuchenreste" (*Monatsschrift für Geburtskunde*, Band. ix., 1857, p. 96). It appears to me, however, that Braun has the merit of maintaining the great importance of these placental remains in the pathogenesis of uterine polypi. He has combined the experience of the obstetrician and of the pathologist, and has shown that placental débris may remain in the uterus, assume the external form of polypi, as we see in the above-quoted case from Frederik's Hospital, and may, even years after delivery, give rise to the whole group of symptoms attributed by pathologists to polypi. There is, in fact, no doubt that these placental remains are occasionally retained in the cavity of the uterus, and at length come under the care of the surgeon, without their pathogenesis being known to him. Thus, if we read in the French pathologies the chapter—"Des Granulations ou Fongosités Intra-utérines"—we shall easily discover that a great part of the cases there mentioned must be referred to the class of placental polypi with violent and persistent hemorrhages; and, while their cause has been sought in the most widely differing morbid conditions, their proper origin has been overlooked. Nonat (*Traité prat. des mal. de l'utérus*, etc., 1860, p. 195) enumerates, among their generally received characters, that they are found only in women who have had children; that their frequency increases with the number of births; that they are almost always situated in the body of the uterus, on its posterior surface; and, lastly, he mentions, under the description of them, that they resemble the "detritus of the placenta;" in short, he has unconsciously given a description of, and arranged the characters of these fungosities, by which they are recognized as placental remains, at least in many instances.

It is remarkable that the subject of placental remains in the cavity of the uterus has as yet been very sparingly treated of in most manuals of midwifery. This is the more singular as these remains play an important part in metrorrhagia, both in the fifth period of delivery, and later in

life. In my dissections of puerperal patients I have always directed my attention to the seat of the placenta, and its condition. I have in this investigation often found these remains; and I should hope that the results of my experience in this respect will not be unacceptable, and that they may, perhaps, contribute to supply a want, as they touch chiefly upon the anatomico-pathological part of the question, which has been still more neglected than the clinical. I shall compare my results with the contents of A. Hegar's work, entitled, *Die Pathologie und Therapie der Placentarretention*. Berlin, 1862.

The term *placental remains* is applied to all the parts possessing the placental structure which remain in the cavity of the uterus after the discharge or removal of the secundines. Of course I do not speak of the small portions of the after-birth which always remain in the seat of the placenta, and which are subsequently expelled, little by little, with the lochia. I now allude only to such remains as possess a size varying from that of a walnut to that of a goose-egg, or larger; which contain one or more cotyledons of the placenta, either in their integrity or in their greatest part; and which are separated with greater or less difficulty from their places of attachment. Such larger remains are, as I have said, not very unfrequently met with. During the past two years I have, in Frederik's Hospital, and in the Royal Lying-in Institution, performed 65 dissections of puerperal women; and, in addition, reports from five similar dissections, at which I have been present, are before me. In these 70 bodies large remains of placenta were seven times found—that is, in 10 per cent. This, probably, does not exhibit the true frequency of their occurrence, as these remains probably cause and coincide with an increased amount of illness and death among puerperal women; but still it shows that such remains are met with much more frequently than has generally been supposed, and than is stated in the manuals of midwifery. In these seven cases the after-birth was five times expelled naturally in the course of from a quarter to half an hour after the birth of the child. In the other two cases, on the contrary, the placenta was removed by the introduction of the hand into the cavity of the uterus in two or three hours after the birth—in one instance by a physician, in the other by a midwife. In these two cases there was considerable hemorrhage from the uterus in the fifth period; the same occurred in one of the cases where the after-birth had been naturally expelled, and where three-quarters of a pound of blood was collected; while, in addition, blood-coagula were, in the course of the day, expelled from the uterus with labour-like pains.

The *causes* of retention of placental remains may be sought partly in the condition of the placenta itself, partly in the uterus, and, finally, in external circumstances. Thus, the *placenta* may be of a too loose consistence, so that the lobes are easily separated from one another; it may,

moreover, be so thin and flat that the pains are not able to act upon it, cannot separate it and expel it, or parts of it. This is often the case with the small accessory placentas (*placenta succenturiata*), and in division of the placenta into two or three parts (*pl. duplex-triplex*). The most important of the causes which are to be sought in the placenta itself are its adhesion to the wall of the uterus—which often coexists with sanguineous effusions or depositions of fibrin, and exudation in its tissue. These adhesions may be very strong; so that the placenta, throughout greater or lesser portions, can be separated only by taking away with it parts of the uterine substance. They very rarely occupy a whole placenta, but are so much the more frequent over smaller portions, and acquire the greatest interest for us, as these adhesions must favour the development of polypous placental remains, especially where they assume the band or string-like form, as in the observation above communicated. Besides such a pathological source of placental adhesion, we may also find physiological reasons for an abnormally solid attachment in birth between the placenta and the uterus—namely, in abortion, and in the birth of a not yet viable fetus. The earlier in pregnancy we examine the condition between the placenta and the uterus the firmer it in general is, and the less the decidua is in a condition to separate. The attachments of the placenta, therefore, loosen with incomparably greater difficulty in abortion than in the birth of a full-grown child; and precisely for this reason we often meet with hemorrhage and retention of the after-birth in premature deliveries.

In four of my seven cases with placental remains on the wall of the uterus there was a firm adhesion; while the connexion in the three other cases was more or less loose. Only in one of these four cases was the fetus not at the full time—it was born five weeks too soon. In the three cases where the connexion was looser all the children were at the full time.

The cause of the retention may, moreover, lie in the *action of the uterus*; Thus, the pains may be so strong, and may follow so quickly on each other, that the after-birth is expelled too rapidly, or atony may supervene upon this violent action; and, in either case, the circulation in the placenta is not gradually diminished, the parts are not prepared for separation, and some cotyledons remain behind upon the wall of the uterus. The atony may also be primarily present both before and during delivery; and, as a result of the same atony, larger or smaller portions of the placenta may be retained. Lastly, an unequal contraction of the uterus, or a faulty formation of that organ, may be enumerated as a cause of retention.

As the third causal element are mentioned all the influences which give rise to an untimely or incomplete separation of the placenta. They are partly internal, partly external; and among these must be reckoned every artificial aid which has the removal of the after-birth for its object.

If we now compare the seven cases, they exhibit the following facts:—Five of the women were, according to the hospital records, *primiparæ*; two were *multiparæ*. This does not agree with the general experience that a partial retention of the placenta occurs more frequently in *multiparæ* than in *primiparæ*; yet we must not overlook the fact that both the *multiparæ* belonged to the cases where the adhesion of the placental remains was solid; just as I also must admit that this enumeration is not conclusive, inasmuch as I cannot compare it with the proportion between parturient *primiparæ* and *multiparæ*. There is no doubt that many women have a *predisposition* to this anomaly. Thus, Hüter has found adhesions, abnormal formation, and inflammatory process in the placenta, in four consecutive deliveries in the same woman; and Hegar saw different cases of this kind; just as he also has known women in whom abortions and adhesion of the fully-developed placenta alternated in many consecutive births. This indicates the existence of a morbid predisposition in the uteri of some women; and this element is not unimportant, as we may, perhaps, in it find the germ of the morbid cases, which are in general referred to adhesion and retention of the parts of the placenta. An observation will illustrate this:—

A. N., No. 96, an unmarried *primipara*, aged 31, was admitted into the Lying-in Institution on the 17th February, 1860. After 52 hours' labour, she was delivered, in the afternoon of the 19th February, of a dead full-grown boy. The funis was round the neck of the child. The placenta came away naturally, half an hour later. Even during the labour there were signs of metritis—feeble, distressing pains, with considerable tenderness of the abdomen, and of the vaginal portion of the uterus. The pulse was rapid. Twelve leeches and an emollient cataplasm were therefore applied during the labour. The symptoms increased, and became very threatening. On the 20th February she was admitted into the A medical division of Frederik's Hospital, and she died on the 22nd. On dissection, peritonitis, metrophlebitis, and endometritis were found. The uterus was large, less contracted than it normally should have been, especially in the left superior angle. Its inner surface was covered with an abundant, partly puriform, partly chocolate-coloured mucous layer, capable of being scraped off. The tissue of the cervix was highly infiltrated with blood. In the left superior angle of the uterus a portion of the placenta, of the size of an egg, remained attached to the inner surface of the organ in the seat of the placenta.

In this case the probability cannot be denied that the same process in the uterus, which was the cause of the adhesion of the placenta, gave rise to the unusually early and violent occurrence of the puerperal symptoms.

Before proceeding to describe the seat of the placental remains, it is necessary to dwell, for some moments, upon the locality usually occupied

by the placenta. I have accurately noted the seat of the placenta in 35 dissections, to which the seven cases already mentioned also belong. It was found 21 times upon the posterior surface, eight times upon the anterior surface, and six times in the fundus and angles of the uterus. The investigation of this question has always been very defective; and, although it is not unimportant, we find but very sparing information respecting it in literature. In general we find in authors only the brief statement that the seat of the placenta is met with most frequently on the posterior surface, somewhat to the right side—(Scanzoni-Hohl). This does not at all agree with my notes; as in the 21 cases where it was found on the posterior surface, it was 14 times in the middle line, three times to the right, and four times to the left side; and, on the whole, the right-sided insertion was by no means predominant, for in 17 cases the placenta lay in the middle line of the organ; nine times it was to the right, and as often to the left side. It is indeed true that I have not measured its seat with compasses, but with the eye; and I will therefore not deny the possibility that it may, perhaps, somewhat more frequently, have extended a little farther to the right than to the left side of the middle line; but I am still certain that the loose statement of a so much more frequent right-sided insertion of the placenta is, in its generality, incorrect. One of the few authors who supply statistical data in this direction, namely, Velpeau—(*L'art des accouchem.* 2nd Edition, T. I, p. 298)—has arrived at results which still less agree with my notes. Thus, in 34 dissections, he found the centre of the placenta 20 times corresponding to the orifices of the Fallopian tubes, three times on the anterior surface, twice on the posterior surface, three times beneath one of the Fallopian tubes, and six times in the fundus of the uterus. With the exception of the fact that the insertion occurs six times in the fundus in both series of dissections, there is the greatest possible disagreement between them. For my part I do not believe that the middle of the placenta is so frequently to be found over the orifices of the Fallopian tubes; but I will defer my judgment until a larger amount of material has been collected. These discrepancies may, however, stimulate pathological anatomists to a more accurate investigation of the subject. If we now turn to the seat of the placental remains, the dissections have afforded very remarkable information in this respect. They were found twice on the posterior surface, three times on the anterior surface, and twice in the superior angles of the uterus. This, therefore, exhibits a relatively much more frequent location on the anterior ($\frac{3}{8}$) than on the posterior ($\frac{2}{21}$) surface, a result at which other investigators have also arrived, at least so far as the cases are concerned, where the adhesion was solid. Thus d'Outrepoint found, among 11 tendinous adhesions, the placenta eight times adherent to the anterior surface; and an explanation of this has been sought in the more ready accessibility of the anterior surface to traumatic influences

with subsequent inflammation. In my cases the adhesion was twice solid upon the anterior surface, while it was only once upon the posterior. These remains appear also to have a comparatively frequent location in the superior angles of the uterus. In five cases—namely, where the placenta had been attached in the angles in question (in two to the right and in three to the left) considerable placental remains were twice found there; this, therefore, exhibits a frequency of $\frac{2}{5}$. When they are seated in these parts they give a peculiarly oblique appearance to the uterus, which we find mentioned in the case last described; yet we cannot always infer, from such an obliquity of the organ, that we shall find placental remains in the projecting angle, as the obliquity seems generally to exist where the placenta is situated in the angles of the uterus. In the cases with the insertion of the placenta in this place I found the defective contraction in the angle just mentioned, and the consequent obliquity four times; and among them there were two cases where no placental remains were found; but where the veins were much distended, and were filled with puriform masses and decomposing thrombi, so that the location of the placenta in this place seems in a high degree to promote a deficient thrombosis.

Having treated of the pathological anatomy of placental remains, we have now briefly to speak of their diagnosis, and of the course of the symptoms.

It is certainly very doubtful whether we are in a position to diagnose, during pregnancy, and even during delivery, the total or partial adhesion of the placenta. The symptoms which indicate hyperemia and inflammation of the uterus may indeed excite our suspicion; but nothing can be positively decided in this respect. Simpson and others have mentioned a bearing down circumscribed pain in the uterus, or persistent pain in the lumbar region and uterus as a good sign in an adhesive placentitis; but this is of little value, as at least from such pains alone we cannot diagnose an adhesive inflammation. We may confine ourselves to saying, that threatening abortion, with hemorrhage, not unfrequently gives rise to adhesion of the placenta in delivery at full time, and that, as has already been remarked, inflammatory symptoms in the uterus during pregnancy are precursory to a firm adhesion of the uterus.

In the stage of the expulsion of the placenta, and later, we have, on the contrary, tolerably characteristic signs of retention of placental remains. In the first place the examination of the expelled placenta may give us valuable information, and ought never to be omitted. A torn appearance, or the want of one or more cotyledons, may indicate retention of placental remains. This investigation may, nevertheless, sometimes be useless; as the placenta appears whole and uninjured when the retained mass is a cotyledon separated from the edge—a placenta succenturiata, or a placenta-like formation on the chorion itself, as Hüter has observed. The direct

recognition of placental remains in the cavity of the uterus, by the exploring finger, affords the most certain diagnosis. In one of my cases, from Frederik's Hospital, Councillor-of-State Dahlerup had felt placental remains in the uterus, and, on inquiry at the Lying-in Institution, we ascertained that, in delivery, a portion of the placenta was wanting, and that the patient had had a considerable hemorrhage in the fifth period. She suffered much from nausea and vomiting in the hospital, had a highly-fetid, excoriating, and very sanguineous lochial discharge; and, on dissection, there was found on the anterior surface, directly over the internal orifice, an adherent, normal-looking placental remnant, with a base equal in extent to a two-marks' piece. There was considerable fresh exudation in the seat of the placenta. We must, however, beware of mistaking coagula of blood, or fraying and folding of the mucous membrane of the uterus, for remains—a possible occurrence, as may be seen from the following case:—

Puerperal patient No. 7090, a secundipara, aged 20, was admitted into the A medical division of Frederik's Hospital, on the 28th December, 1859, six days after delivery. On vaginal exploration, the orifice of the uterus was found to be of the size of a mark, and within it was felt a soft, spongy body, *resembling placental tissue*. The patient died on the 30th December; and, on dissection, the seat of the placenta was found above, and with only small particles of the placental mass, while the mucous membrane—or the inner layer in the uterus—down at the internal orifice, was frayed and lying in folds, projecting into the orifice. In most cases such a mistake will, however, not be made.

But very often we cannot establish the diagnosis by direct examination in this mode; we are then confined to other symptoms, which do not, indeed, with perfect certainty indicate a partial retention of the placenta; but which still make this extremely probable. To these belong: that the uterus remains abnormally large; that the cervix uteri and the vaginal portion manifest a deficient involution; moreover, that pains, like those of labour, exist later than usual; lastly, we may mention persistent vomiting, hemorrhages from the uterus, and a very fetid, abundant, highly blood-coloured lymph-like lochial discharge. All these symptoms may occur under other circumstances; but together, they have an important bearing on the diagnosis; and the more so the more numerous they coëxist. I shall dwell especially upon the hemorrhages, and the changes in the lochial discharge.

Metrorrhagia may occur shortly after delivery; and, therefore, in the proper period of the after-birth. This we saw in three of the cases mentioned where the hemorrhage had been very violent in the fifth period. In these three cases the placenta was situated once in the right superior angle, and twice on the anterior surface; and in the last two bodies the remains were found firmly adherent. This shows that

location on the anterior surface, and firm adhesion, are favourable to these hemorrhages. Early hemorrhage has, however, less value in a diagnostic point of view, as it may then be due also to atony of the uterus, without retention of parts of the placenta. Hemorrhages which occur at a later period have, on the contrary, so much the more weight. It often happens, as in the first case, that the confinement runs a normal course; but that in from two to four weeks after delivery hemorrhage again sets in, when the uterus contracts more around the foreign body, and is obstructed in its involution. The hemorrhage may then return at short intervals; may come on without any apparent cause, and alternate with a copious light lymph-coloured vaginal discharge. Although these hemorrhages are seldom so violent as in the fifth period, they may gradually undermine the patient's strength, and give rise to a high degree of anemia. It is, therefore, very probable that the high degree of weakness in the system, which the *post mortem* appearances in the first case distinctly indicated, is caused, or, at all events, is favoured, by such hemorrhages. The symptoms continue until either nature or art has removed the irritating placental remains. Nature may, in fact, expel them after the lapse of days or months, and the symptoms then cease; but there is no doubt that they may be gradually loosened, and may pass away in the above-described lymph lochial discharge. Hegar directs attention specially to this point, and states that he has often met with women, who, long after delivery, have had insidious metrorrhagia, alternating with such a vaginal discharge, and, at the same time, with defective involution of the uterus; and in these cases he supposes that partial retention of the placenta exists. I believe that this view is correct, especially in the cases where the lochia, at a later period, and for a longer time, assume the condition above described. Thus, I am at present attending a patient who was delivered in the middle of October of a premature child; the placenta came away naturally, but was not examined by me. Convalescence proceeded regularly; but in the middle of November metrorrhagia set in, which returned in the end of the same month, and in fourteen days was followed by a copious, brownish-red, fetid vaginal discharge, mixed with numerous flakes of organic matter; the uterus was very large, and was anteverted. There was slight general uneasiness. With rest, and emollient injections, the symptoms subsequently ceased; but it appears to me probable that the phenomena described were due to a placental remnant in the uterus, and ceased on its removal with the discharge.

The course of the affection is, however, not always as above, for decomposition of the placental remains occasionally occurs, with endo metric symptoms as causal or complicating element, giving rise to septicæmia. This is probably most frequent during epidemics of puerperal fever, and it is, perhaps, for this reason that I have comparatively so often found these remains of placenta in dead bodies. Finally, the

termination in the formation of the so-called placental polypi is to be mentioned, of which I have spoken in the commencement of this paper.

As to the *treatment* of placental remains, I shall defer speaking of it until I shall have, on a future occasion, given an account of the treatment of the after-birth period. I shall here only briefly state that these remains certainly ought to be removed, when this can easily be done; while, in other respects, we must confine ourselves to measures of cleanliness, and to the treatment of metrorrhagia by injections of water and of astringent solutions. If a longer period has elapsed since delivery, and if polypoid formations have taken place, these, of course, become the subject of surgical treatment.

CLINICAL RECORDS.

Cases of Ovariectomy.—By MR. BAKER BROWN, reported by Dr. G. de Gorrequer Griffith, House Surgeon to the London Surgical Home.

Case I.—Mrs. Z., aged 31, married ten years, mother of five children, was admitted into the London Surgical Home, on June 12th, 1863.

History.—Duration of disease, two years. About six months after commencement of the swelling, there was spontaneous rupture of cyst, while she was lying in bed under treatment in one of our London hospitals; four months after this first rupture, the cyst again spontaneously burst, as she was cooking; and rapidly filling, it for the third time broke six weeks after the second rupture. There was no external discharge upon the three several occasions of rupture, the cyst each time emptying itself into the abdominal cavity, whence the fluid was at least partially removed by absorption.

Ten weeks previous to admission, she was first tapped, and the second tapping was performed five weeks subsequently; on both occasions three gallons of thick dark fluid were removed. The third tapping was on June 18th, of this year, by Mr. Baker Brown, when sixteen quarts flowed away; the measurement of abdomen previous to which operation was forty-four and a-half inches.

Examination on July 1st.—Her spirits are, as they have ever been, most cheerful, and her health is very much improved by the preparatory treatment with tincture of the muriate of iron and tincture of arnica. Girth of abdomen, thirty-six inches.

July 2nd, 1863.—The patient under chloroform. Mr. Baker Brown made his accustomed short incision, broke down the adhesions, drew off with trocar, twenty pints of glairy fluid, and removed an enormous

multilocular cystic growth from the left *broad ligament*; as however both ovaries were diseased they were removed; the clamp securing one, and a ligature of Indian hemp the other ligament of ovary, while silver wire was employed in tying the three divided adhesions, which required such interference. The wound was then closed by seven silver sutures.

July 8th.—Clamp and four of the seven wire sutures removed.

July 12th.—Other three sutures removed.

July 16th.—Hemp ligature came away.

August 18th.—The patient not having had any untoward symptoms since the operation, made a rapid and excellent recovery, and leaves to-day quite strong and able to walk about.

Case II.—Miss V., an Irish lady, aged 20.

History.—Fourteen months since the disease made its appearance. First tapping, August 15th, 1862—twelve quarts of fluid drawn off; Second tapping, February 14th, 1863—sixteen quarts of fluid drawn off; Third tapping, June, 1863—twenty quarts of fluid drawn off.

Previous to these three operations, she had been submitted to the plan of treatment by the iodide of mercury, while locally a succession of blisters was employed, which failing of success, she came up to London, and on August 8th, in presence of Dr. Beatty, President of the Dublin Obstetrical Society, who kindly lent his aid, and of Messrs. Philip Harper, Bullock, Wratislaw and myself, the patient being under chloroform, Mr. Brown removed the polycystic growth, which he found to be of the left ovary, tied the very vascular omental adhesion, cutting off that portion of omentum below the silver wire ligature used, secured the pedicle with the clamp, closed the wound with four silver wires, adopting his wonted mode of dressing.

August 14th.—This patient, who had up to this been in the most favourable condition, rapidly sank; but, owing to the treatment adopted and to the most careful nursing enjoined, she rallied, and is now (August 31st) able to walk about. The amount of fluid drawn off on the day of operation was sixteen quarts.

Case III.—Miss D., aged 68, also an Irish lady.

History.—Nine years since the tumour was first noticed, but only within the last year has it become rapidly developed. Was never tapped till July 25th, when Mr. Brown performed the operation and removed ten pints of fluid.

On August 13th, the patient being under the influence of ether, Mr. Brown making his usual short incision, removed, in the presence of Messrs. Philip Harper, Bullock, Wratislaw, and myself, a large polycystic growth of left ovary; there being no adhesions of any import, the pedicle was embraced in the clamp, the wound closed by seven silver sutures, and the usual mode of dressing pursued.

Dr. Kidd, of Dublin, was present at the close of the operation. The patient has not had one unfavourable symptom since the operation, and is also able to be up and to walk about.

Both these last cases were visited by Drs. Kidd, Stoker, and Bigger, of Dublin, and the first was seen by Drs. Beatty, Kidd, and Stoker.

It will perhaps enhance the value of these reports, when I add, that through the kindness of Mr. Brown, I had the constant and immediate supervision, under him, of these cases, of which the first, as already stated, occurred in "The Home," the two others being in private practice.

Two cases of Deafness depending on Chronic Catarrh of the Internal and Middle Ear, Cured by the Injection of the Vapour of Water and Ammonia. By PHILIP C. SMYLY, M.D., T.C.D., and F.R.C.S.I., Surgeon to the Meath Hospital.

The two following cases have been treated by the inflation of the Eustachian tube and middle ear, with the vapour of ammonia. The apparatus employed was that described by Professor von Tröltzsch, in his *Krankheiten des Ohres ihre Erkenntniss und Behandlung*, 1863. It may be well to mention before describing the cases, that Professor v. Tröltzsch has quite abandoned the use of fluid injections. He says, in one of his lectures:—"With regard to the injection of remedies into the middle ear, which are still employed by many aurists, I consider them utterly useless, and have for my part completely given them up." The Professor then shows how in the great majority of cases, not a drop of the fluid ever reaches the middle ear. He also congratulates the sufferers from deafness that this is the case. He describes the effects thus:—"Our patient into whose middle ear some luke-warm water was injected, had vertigo for more than two hours; and in other cases, in addition to the deafness, there was periodic earache."

The method of applying the douche is fully described in the sixteenth lecture of the *Krankheiten des Ohres*.

Case I.—Mrs. V., stated, on her first visit, that she had been perfectly deaf for five weeks, and that she has been so more or less for a long time. She has felt a crackling sensation in the left ear, but not for some time, and since it ceased she thinks she has been quite deaf. The right ear has the crackling sound in it at present, and she can hear when the voice is very loud, and the mouth placed close to the ear. With the left ear she cannot hear the watch unless it is pressed against the ear, while with the right she can hear it at two inches. Both ears were inflated by blowing through a tube and Eustachian catheter, but with considerable difficulty. There was some improvement in the hearing, which lasted until next day. Four days after both ears were inflated several times with the vapour of water and ammonia, with marked improvement. The douche was repeated on the two following days, and for a fourth time

three days later. On the last occasion the report is, that she can hear the watch with the left ear at three inches, and with the right ear at eight inches. The douche was repeated on the following days, making altogether one inflation with air, and six with the vapour of ammonia and water, in fourteen days.

Her hearing is quite restored, and she has no inconvenience from her ears. No other remedies were employed, either internally or externally.

Case II.—Dr. H., a medical practitioner. Has always had excellent hearing, until about the first week in September. He had inflammation of the larynx, brought on by cold from the previous July, with copious discharges from the right nostril. In August he had a severe influenza, which reduced his strength very much. He drove one day about ten miles on an outside car, with his right side forwards. The next morning he was deaf. Describing his own case, he says:—"The ear felt as though something was lodged in the cavity, and my voice gave rise to a singing sensation through my head, which caused great difficulty in speaking, and also in hearing others speak. This continued for some days, the intenseness becoming every day greater, so that the pulsations of the carotid artery were very constantly heard, particularly when the head rested on the pillow. This soon was the only sound I could distinguish. The ticking of my watch could not be heard, unless in actual contact with my ear. Chopping the teeth produced a peculiar ringing sound through the deaf side of the head. When in a room where many persons were speaking, the sensation of being unable to distinguish what was said, was very uncomfortable. Sounds were heard, but the distinguishing of them was quite impossible, and upon such occasions the left (my good) ear seemed to participate with the right.

"I tried various methods for obtaining relief from the deafness, such as brushing the fauces with nitrate of silver solution, leeching inside the external meatus, blistering behind the ear, &c. On one occasion a few drops of spirit of ammonia were passed through a Eustachian catheter several times, which caused violent sneezing. Not any of these remedies gave the slightest relief. My deafness remained the same until February, 1863, (six months) when I had fever, with bronchitis. When able to be upon a sofa, I first perceived that I could hear with my right ear; I covered the left, and found the hearing quite restored. I left Dublin for the continent in March. My hearing remained perfect until my return to Dublin in June. When about ten days in town, the discharge from the nostril (which from July had continued without intermission), increased a good deal. The fauces were also, up to this time, more or less inflamed, and the voice was rough; cough was troublesome, with a good deal of expectoration. I now perceived a peculiar sensation in my right ear, of sounds like the opening and closing of a valve; there was a feeling of something

being in the ear. The power of hearing gradually diminished. In a few days the sounds of the carotids returned, the ringing of the voice through the head, the peculiar sensation when the teeth were chopped, and all my former unpleasant condition.

“Professor Czermak examined my larynx and nasal cavity, with Dr. Fleming. The parts appeared more red than natural; the Eustachian tube was congested and filled with mucus. About a week after Dr. P. C. Smyly examined me in the same manner. He injected a weak solution of nitrate of silver, by means of a tube passed along the floor of the nose, over the back of the soft palate, and opening of the Eustachian tube, for the purpose of checking the excessive mucous secretions. This smarted a good deal, and rather increased the nasal secretion for two or three days. He then passed a Eustachian catheter, and endeavoured to inflate the tube with air, but failed until he passed a fine india-rubber bougie into the Eustachian tube; the air was then blown in so as to act upon the membrane of the drum. The vapour of ammonia and water was then pumped in. In less than a fortnight under his treatment my hearing was perfectly restored. As it gradually improved, crackling could be heard sometimes; but the sensation of the ear being free from plugging, with the removal of the ringing sounds when speaking, or chopping my teeth, gave the most convincing proofs of the success of the treatment. On some occasions, before the operation, I could only hear my watch within three inches of the ear; after it I could hear it more than three feet from it. Passing the catheter gave no uneasiness. The vapour of the ammonia and water felt pungent, but never caused sneezing, as when the fluid was injected.

“In about a week after I had ceased to attend Dr. Smyly, the secretion gradually returned, but two operations completely removed it. I hear as perfectly as I ever did, and am free from any feeling of discomfort in my ears.”

The watch used in the second case had a very loud sound; that in the former was not so loud.

Dislocation of Left Radius (at Elbow Joint) backwards. By W. NEWMAN, M.D. Lond.—St. Martins, Stamford.

November 17, 1858.—A boy, seven years old, child of a mason, stout and well nourished.

He was running across the house floor and fell over some small obstacle. The left arm was bent under him when he was raised from the ground.

I saw him in a few minutes. The left fore-arm was fixed at an obtuse angle and strongly supinated; the thumb turned downwards and outwards, and the hand altogether bent a good deal over to the radial side. There was a very evident depression along the upper fourth of the normal line of

the radius. The head of the radius was lying beneath and behind the external condyle of the humerus. No displacement of the ulna.

The upper arm was held perfectly steady; I grasped the hand, drew the arm downwards, and with the thumb of the other hand pressed on the displaced head. Then slowly bending the elbow, the reduction was at once effected.

Comparatively few cases are on record of this form of dislocation. This instance is, moreover, an example of displacement occurring at an age when fracture might, with much more reason, have been expected to follow upon a fall.

Cases of Encysted Tumours in the Region of the Scalp. By CHRISTOPHER FLEMING, M.D., Surgeon, Richmond Hospital; Visiting Surgeon, Dr. Stevens' Hospital, &c., &c.,

I find the following cases in my clinical note-book. They occurred some few years back, and are not devoid of practical value:—

Case I.—A young girl, aged eighteen years, and unmarried, applied to me with a tumour on the top of the head, about an inch or so beyond the commencement of the hairy scalp. It was prominent and disfiguring, and interfered much with the adjustment of her hair and head-dress. From her account, and that of her mother, a fulness was visible in the site of the tumour from her childhood, and latterly this fulness became more remarkable. On examination I found that it exactly occupied the mesial line, in the site of the junction of the sagittal with the coronal suture, that the scalp moved freely over it, that its surface was perfectly smooth and uniform, that it was firmly imbedded in its position, and that its base was encircled by a solid and unresisting ridge. It projected a good deal; was somewhat globular in shape; about the size of a Maltese orange; and communicated a distinct sensation of fluctuation. No uneasiness was felt in it, and no manipulation of it was painful; neither did pressure upon it produce any unpleasant effect, cerebral or otherwise. It was free from a trace of pulsation, and no sound was discernible from the application of the stethoscope over it. The general health of the girl was good, though she was evidently of a strumous habit, having traces of strumous ophthalmia in both corneæ. The catamenia were regular; the tumour was not influenced in the slightest degree by excitement of any kind, and she was capable of any amount of exercise without inconvenience. I admitted her into hospital; it was decided that this tumour was encysted; that its deeper connexions with the pericranium were most probably very intimate, and that an operation was justifiable. On the 1st of August the requisite preliminary preparations having been adopted, I proceeded to remove the tumour. Its connexion with the scalp was loose; and its anatomical locality was

distinctly under the occipito-frontalis tendon. When fairly exposed it was found that the cyst was completely identified with the pericranium on a ridge of bone encircling it, and that it was perfectly futile to attempt the removal of the whole cyst. With a scissors I clipped it all round the base of the ridge alluded to, as low down as I could reach; when turning out the contents of the cyst a regular cup-like cavity was exposed, as if bevelled out from the bone. In the centre of this cavity a dimple existed about the size of a fourpence, in which bone was wholly deficient, and brain-movement was distinctly visible through a dense fibrous looking membrane. No hemorrhage of any moment occurred, although the scalp was highly vascular. No separate vessel of magnitude sprung up; pieces of oiled lint were introduced within the cavity of the wound; the lips of the wound were gently approximated, and proper dressings applied. Very considerable local and constitutional suffering supervened after the operation; the local inflammation was severe and extensive, and the accompanying fever high and prolonged; all yielded to ordinary treatment; and no unusual head-symptoms presented themselves. The cicatrization of the wound was extremely slow, and was, on three or four occasions, interrupted by accessions of fever, and by local symptoms of an erysipelatous character. The attendant ulceration at times assumed a phagedenic appearance, and I was not free from alarm as to the result; and so slow was the reparative process that even at the end of three months a small patch of ulceration remained. The situation of the ulcerated surface and its peculiar shape rendered it not very manageable for suitable dressings so as to ensure its rapid healing. The brain-movements were visible throughout, and could be discerned without much difficulty after the cure was completed. I should have noted that the contents of this tumour were of the ordinary atheromatous character in scalp-encysted tumours, and that the microscopical appearances were as usually observed—such as epithelial scales, granular matter, cholesterine tablets, &c.

Case II.—A servant girl, aged twenty-one years, appeared at the Netterville Institution with a tumour on the right side of the head, which had first attracted her attention, accidentally, about six months previously, whilst she was combing her hair. Its inconvenient situation and its increasing size, induced her to seek advice respecting it. She was apparently in good bodily health, but was evidently of a very hysterical temperament. The tumour occupied the fore part of the right temporal region, about an inch behind the external angle of the eye, and immediately below the upper attachments of the temporal aponeurosis; it was assumed to be underneath the aponeurosis; and was evidently influenced in its prominence by the action of the temporal muscle. It was about the size of an ordinary walnut; was slightly movable in its bed, smooth on surface, remarkably

tense, and communicated a distinct sense of fluctuation. The scalp-covering was natural, though permeated by many large veins; and it had no firm adhesion to the surface of the tumour. The anterior surface of the superficial temporal artery could be felt at the lower border of the tumour.

Having transferred the girl to the Richmond Hospital, it was decided that the tumour should be removed; and, on the 21st of October, the operation was performed. A larger artery than I had contemplated was divided in the dissection required to expose the tumour; but the hemorrhage was controlled without the necessity of ligature. The tumour was embedded in the temporal muscle, and intimately identified with the pericranium underneath, in which situation the bone was deeply hollowed. At this stage of the operation the cyst, which was very thin and almost diaphanous, was opened, and the contents (atheromatous) escaped. It was, however, fully dissected off. Very sharp hemorrhage took place, which yielded to exposure to the air, to firm compression, and suitable dressing. Much fever and local inflammation supervened, and for many days there was almost complete trismus. The ultimate result was, however, favourable.

The practical surgeon will quickly recognise the more important points deducible from reflection on the details of the above cases, and particularly the condition of bony walls superinduced. The propriety of the early removal of tumours of the scalp, circumstanced as the above, must be admitted, and the caution required in the operative stages, must be apparent. In all similar cases, the complete removal or destruction of the whole of the cyst-wall is most desirable, or otherwise very ugly and forbidding ulcerations may arise, which are often very obstinate, and require renewed operative interference to effect perfect cure. In a pathological point of view the consideration of the mode of the original cyst-formations in each of the above cases is interesting. In such cases, "it may be impossible to decide, when the cyst is fully formed, what was its mode of origin; whether by growth of parts once normally formed, or by transformation of elementary and rudimental structures?"

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2. A case of rapid "wasting palsy," from structural disease of the spinal cord. By J. L. W. Thudichum, M.D. The investigation of the nervous centres; with comments by J. Lockhart Clarke, F.R.S., &c. Reprint from *Beales Archives*, No. XIII.

3. On the naming and classification of mental diseases and defects. By Thomas Laycock, M.D., &c. Reprint from *Journal of Mental Science*, July, 1863.

4. On artificial dilatation of the os and cervix uteri by fluid pressure from above. A reply to Drs. Keillar of Edinburgh, and Arnott and Barnes of London. By H. R. Storer, M.D., &c. Reprint from *Boston Medical and Surgical Journal*, July, 1863.

5. *Canada Lancet*. Nos. V. and VI.

6. Sixth annual report of the board of superintendence of the Dublin hospitals. Dublin: Thom. 1863. 8vo, pp. 31.

7. A catalogue of surgical instruments, apparatus, appliances, &c., manufactured and sold by John Weiss and Son, 62, Strand, London. 1863. 8vo.

8. On the influence of weather upon disease and mortality. By R. E. Scoresby Jackson, M.D., &c. 4to, pp. 54. Reprint from proceedings of royal society of Edinburgh. 1863.

9. Extracts from the records of the Boston society for medical improvement; with papers read before the society. By F. Minott, M.D., Sec. to the society. Vol. V. No. I. 8vo. Boston. 1863.

10. A treatise on hygiene; with special reference to the military service. By Wm. A. Hammond, M.D., surgeon-genl. U. S. army, Philadelphia. Lippincott and Co. 1863. 8vo, pp. 604.

11. Forty-third annual report of the directors of the Dundee royal asylum for lunatics; with the report of the medical superintendent. 1863. 8vo, pp. 33.

12. Jaundice; its pathology and treatment; with the application of physiological chemistry to the detection and treatment of diseases of the liver and pancreas. By Geo. Harley, M.D., &c. London: Walton and Maberly. 1863. 8vo, pp. 136.

13. Mentone in its medical aspect, being letters addressed to a medical friend. By Jas. Siordet, M.B., &c. London: Churchill. 1863. Fcap. 8vo, pp. 111.

14. Report of the Pennsylvania hospital for the insane, for the year 1862. By Thos. S. Kirkbride, M.D., Philadelphia. 1863. 8vo, pp. 72.

15. *Guide de l'asthmatique*. De l'asthme, sa nature, ses complications (bronchites et catarrhes pulmonaires chroniques, emphysème vésiculaire, &c., &c.), son traitement rationnel—Massage. Par C. J. Berger, M.D. Paris: Baillière et Fils. 1863. 8vo, pp. 196.

16. A guide to the qualitative and quantitative analysis of the urine, designed especially for the use of medical men. By Dr. C. Neubauer, and Dr. J. Vogel. Fourth edition, considerably altered and enlarged (with 4 plates and 28 wood cuts). Translated by W. J. Markham, M.D., &c. London. New Sydenham Society. 1863. 8vo, pp. 439.

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18. The surgical diseases of children, being the Lettsomian lectures delivered before the Medical Society of London, March, 1863. By Thos. Bryant, F.R.C.S., &c. London: Churchill and Sons. 1863. Post 8vo, pp. 145.

19. The diagnosis and treatment of diseases of women, including the diagnosis of pregnancy, founded on a course of lectures delivered at St. Mary's hospital medical school. By Graily Hewitt, M.D., &c. London: Longman's. 1863. 8vo, pp. 628.

20. The royal London ophthalmic hospital reports and journal of ophthalmic medicine and surgery. Vol. IV. Part I. London. 1863. Churchills. 8vo, pp. 132.

21. The British journal of homeopathy. No. LXXXVI.

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23. On the arcus senilis, or fatty degeneration of the cornea. By Edwin Canton F.R.C.S., &c. London: Hardwicke. 1863. 8vo, pp. 228.

24. The treatment of hoarseness and loss of voice by the direct application of galvanism to the vocal cords. Illustrated with cases. By Morell Mackenzie, M.D., &c. London: Richards. 1863. Reprint. Pamphlet.

25. On the characters, actions, and therapeutic uses of the Ordeal bean of Calabar (physostigma venenosum, Bal-four), a graduation thesis for which a gold medal was awarded by the Edinburgh University, August, 1862. By Thomas R. Fraser, M.D., &c. Edinburgh: Oliver and Boyd. 1863. Reprint.

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28. The laryngoscope: illustrations of its practical application and description of its mechanism. By G. D. Gibb, M.D., &c. London: Churchills. 8vo, pp. 50.

29. Handbook of physiology. By W. S. Kirkes, M.D., &c. Fifth Edition. London: Walton and Maberly. 1863. Post 8vo, pp. 774.

30. Notice of pulmonary lesions associated with syphilis. By W. Aitken, M.D., professor of pathology army med. school. Reprint from report of the army med. department. 1863. pp. 10.

31. A review of the treatment of tropical diseases. Part I.—Malarious fevers. Part II.—Tropical dysentery. By J. Ewart, M.D., Bengal Med. Service. 8vo, pp. 67 and 74. Calcutta: Lessage and Co.

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33. De l'enseignement clinique dans

les hôpitaux proposition développée et soutenue a la société médicale du panthéon. Par M. Delasiauve, Médecin de l'hospice de Bicêtre. Extrait du Journal le *Siccle*, 17 Septembre, 3 et 7 Octobre, 1858. Paris: Chez Victor Masson, libraire.

34. Considérations sur la paralysie générale, note lue a la société médico-psychologique dans la séance du 28 Juin, 1858. Par le Dr. Cir. Pinel, neveu. Extrait des annales médico-psychologiques. Paris: Imprimerie de L. Martinet. 1858.

35. Du secret médical dans ses rapports avec l'aliénation nottament au sujet du mariage. Par M. le Dr. Casimir Pinel. Note lue à la société médico-psychologique (séance du 30 Mars, 1863). Paris: Imprimerie de E. Matinet. 1863.

36. Des pseudo-monomanies ou folies partielles diffuses et de leur importance thérapeutique et légale. Par le M. Dr. Delasiauve, médecin de bicêtre. Extrait des annales medico-psychologiques cahier d'Avril, 1859. Paris: Librairie de Victor Masson. 1859.

37. Mémoire sur la condition de la bouche chez les idiots suivi d'une étude sur la médecine légale des aliénés a propos due traité de médecine légale de M. Casper. Par M. Bourneville, élève externe des hôpitaux redacteur au journal de médecine mentale. (Extrait du *journal des connaissances médicales et pharmaceutiques*, année 1862-3). Paris: Méquignon-marvis, libraire-éditeur. 1863.

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18. The Indian Annals of Medical Science. Calcutta: Lepage and Co.

19. Transactions of the Medical and Physical Society of Bombay.

20. The Madras Quarterly Journal of Medical Science. Madras: Gantz, Brothers.

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21. The Australian Medical Journal, Melbourne: Wilson and Mackinnon.

AMERICA.

22. The American Journal of the Medical Sciences. Edited by Isaac Hays, M.D. Philadelphia: Blanchard and Lea.

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25. Charleston Medical Journal and Review. Charleston, U.S.